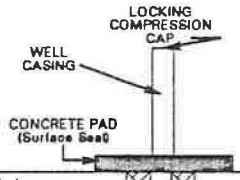
LOG OF TEST BORING

RMT, INC. JONES & NEUSE

BORING NO. B5/LMW-5

Client: GNB TECHNOLOGIES		Start Date: 2-3-95	End Date: 2-3-95	Page 1 of 1
Site: FRISCO, TEXAS		Drilling Method: HOLLOW STEM AUGER		Project Number: 50-01584.13
Geologist: BLAKE GILLESPIE	Driller: RMT-JN/R. BROTHERS	Drill Rig Type: CME-750		Borehole Diameter: 6 Inches
Site Coordinates: N: 5706.3200 E: 4174.7100	Total Depth: 22.00	Surface Elevation (ft.): 643.27	TOC Elevation (ft.): 646.61	PAD Elevation (ft.): 643.27
Datum Description: Site Datum - Elevations ref. from MSL	Datum Elevation: NA	Water Level Depth (ft.): 10.25	Date: 7/25/95	Time: 0647hrs.

Sample Type	Recovery (Inches)	Saturation	OVM (ppm)	Depth (feet)	Stratigraphy	LITHOLOGIC DESCRIPTION
	60			1-5		CLAY (CH) - dark brown, moist, soft, organic material near surface.
	48			5-8		CLAY (CH) - dark tan to brown, hard, 10% chalk clasts.
	24			8-10		GRAVELLY CLAY (CL) - tan, moist.
	48			10-14		CLAY (CH) - tan, hard.
	24			14-18		CLAYEY GRAVEL (GC) - tan.
	24			18-20		CLAY (CH) - tan, massive soft.
	24			20-21		SHALE - gray, hard, iron stained fractures. (Eagle Ford Shale, weathered)
				22		SHALE - gray, massive, hard. (Eagle Ford Shale)
						BORING TERMINATED AT 22 FEET



WELL 1584E 8/23/95

F-204B Austin (8-95)

REV 8/95

691046

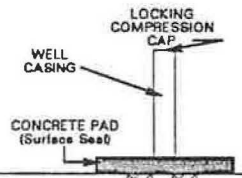
LOG OF TEST BORING

RMT, INC. JONES & NEUSE

BORING NO. B8/LMW-8

Client:		Start Date:	End Date:	Page 1 of 1
GNB TECHNOLOGIES		2-4-95	2-4-95	
Site:		**Drilling Method:**		**Project Number:**
FRISCO, TEXAS		HOLLOW STEM AUGER		50-01584.13
Geologist:	**Driller:**	**Drill Rig Type:**		**Borehole Diameter:**
BLAKE GILLESPIE	RMT-JN/R. BROTHERS	CME-750		6 Inches
Site Coordinates:	**Total Depth:**	**Surface Elevation (ft.):**	**TOC Elevation (ft.):**	**PAD Elevation (ft.):**
N: 5539.0400 E: 4812.0100	22.00	645.57	648.68	645.57
Datum Description:	**Datum Elevation:**	**Water Level Depth (ft.):**	**Date:**	**Time:**
Site Datum - Elevations ref. from MSL	NA	11.13	7/26/95	0630hrs.

Sample Type	Recovery (Inches)	Saturation	OVM (ppm)	Depth (feet)	Stratigraphy	LITHOLOGIC DESCRIPTION
				1		CLAY (CH) - dark brown, organic material, moist, firm.
	24			2		
				3		
	24			4		
				5		
	60			6		
				7		SANDY CLAY (CL) - tan, firm, 10-20% course sand and pebbles size chalk clasts.
				8		
				9		
				10		
	12	▼		11		
	48			12		CLAYEY GRAVEL (GC) - saturated.
				13		
				14		CLAY (CH) - brown, massive, very hard.
				15		
				16		
	24			17		
				18		no recovery
	24			19		SAND (SP) - gray and red, medium grained, moist.
				20		SHALE - gray, hard, massive. (Eagle Ford Shale)
	24			21		
				22		BORING TERMINATED AT 22 FEET
				23		
				24		



Cement/Bentonite Grout

3.0

Bentonite Seal

5.0

2" ID Schedule 40 PVC Riser

7.0

20-40 Sieve Sand Filter Pack

2" ID 0.01 inch machine slot PVC screen

21.5

22.0 Threaded PVC Cap

WELL 1584E 8/23/95

F-204B Austin (8-95)

REV 8/95

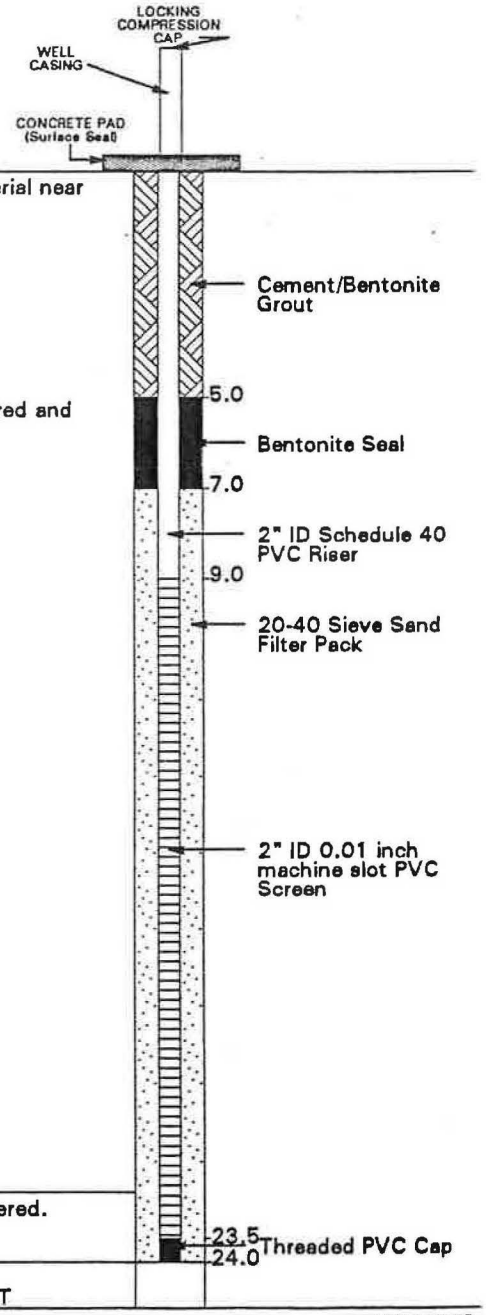
LOG OF TEST BORING

RMT, INC. JONES & NEUSE

BORING NO. B9/LMW-9

Client: GNB TECHNOLOGIES		Start Date: 2-4-95	End Date: 2-4-95	Page 1 of 1
Site: FRISCO, TEXAS		Drilling Method: HOLLOW STEM AUGER		Project Number: 50-01584.13
Geologist: BLAKE GILLESPIE	Driller: RMT-JN/R. BROTHERS	Drill Rig Type: CME-750		Borehole Diameter: 6 Inches
Site Coordinates: N: 5888.8400 E: 4833.3600	Total Depth: 24.00	Surface Elevation (ft.): 660.48	TOC Elevation (ft.): 663.72	PAD Elevation (ft.): 660.48
Datum Description: Site Datum - Elevations ref. from MSL	Datum Elevation: NA	Water Level Depth (ft.): 18.74ft.	Date: 4/24/95	Time:

Sample Type	Recovery (Inches)	Saturation	OVM (ppm)	Depth (feet)	Stratigraphy	LITHOLOGIC DESCRIPTION
	12			1–4		CLAY (CH) - dark brown, soft, friable, organic material near surface, moist, moderately soft.
	12					
	24			5–7		gray, massive, hard, grading into jointed clay with red and yellow staining.
	24			8–9		
	24			10–13		
	24			14–16		tan to brown, jointed.
	24			17–19		gray, massive, jointed, dry.
	24			20–22		
	24			23–24		SHALE - gray, massive, hard. waxy texture, weathered. (Eagle Ford Shale)
						BORING TERMINATED AT 24 FEET



WELL 1584E 8/23/95

F-204B Austin (8-95)

REV 8/95

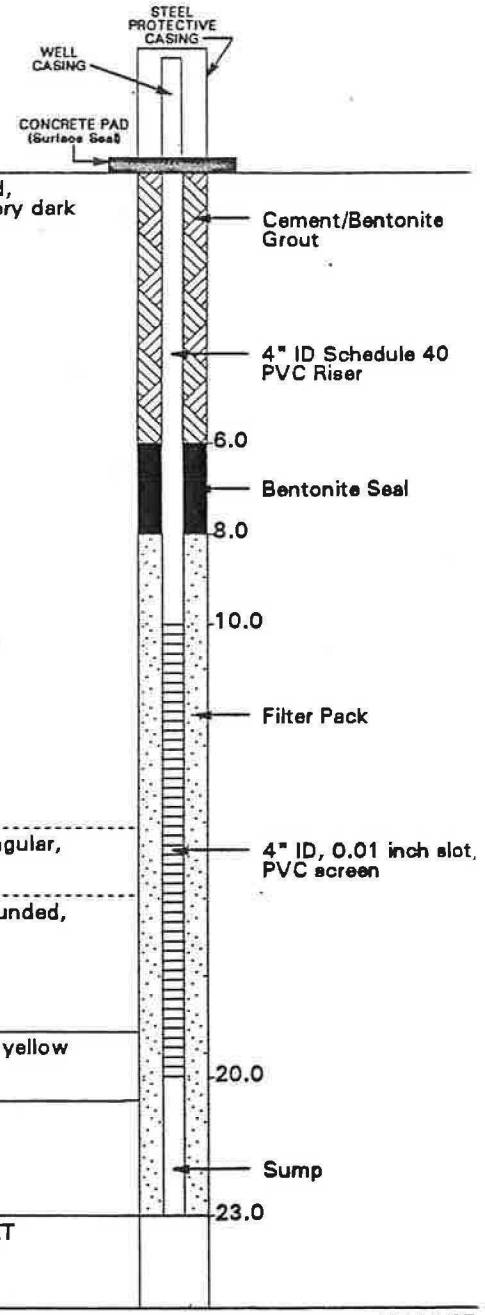
LOG OF TEST BORING

RMT JONES & NEUSE

BORING NO. LMW-17

Client: GNB TECHNOLOGIES		Start Date: 7-21-95	End Date: 7-24-95	Page 1 of 1
Site: FRISCO, TEXAS		Drilling Method: HOLLOW STEM AUGER		Project Number: 50-01584.13
Geologist: DAVID McQUADE	Driller: E.D.S.I./MIKE McNITT	Drill Rig Type: CME-750		Borehole Diameter: 8 Inches
Site Coordinates: N: 5626.1663 E: 4507.0130	Total Depth: 23.00	Surface Elevation (ft.): 646.34	TOC Elevation (ft.): 648.84	PAD Elevation (ft.): 646.34
Datum Description: Site Datum - Elevations ref. from MSL	Datum Elevation: NA	Water Level Depth (ft.): 13.52	Date: 7/26/95	Time: 0643hrs.

Sample Type	Recovery (Inches)	Saturation	OVM (ppm)	Depth (feet)	Stratigraphy	LITHOLOGIC DESCRIPTION
	24			1		CLAY (CH) - trace sand, fine grained, poorly graded, subangular, sand is chalk matrix; plastic; hard; very dark brown; moist.
	24			2		
	24			3		
	36			4		
	60			5		
				6		
				7		
				8		
				9		
				10		increase sand content, fine to coarse grained; wet.
				11		
				12		
				13		
				14		
	24			15		silty sand seam. fine grained CLAYEY SAND (SC) - fine to coarse grained, subangular, poorly graded; no plasticity; loose; tan; wet.
	36			16		
				17		CLAYEY GRAVEL with sand (GC) - fine grained, rounded, poorly graded; loose; tan; wet.
				18		
				19		
	24			20		CLAY (CH) - silty; hard; plastic; gray with rust and yellow mottling; moist. sand seam, very fine grained.
	24			21		SHALE - gray; dense; hard. (Eagle Ford Shale)
				22		
				23		BORING TERMINATED AT 23 FEET
				24		



WELL 1584E 8/23/95

F-204B Austin (8-95)

REV 8/95

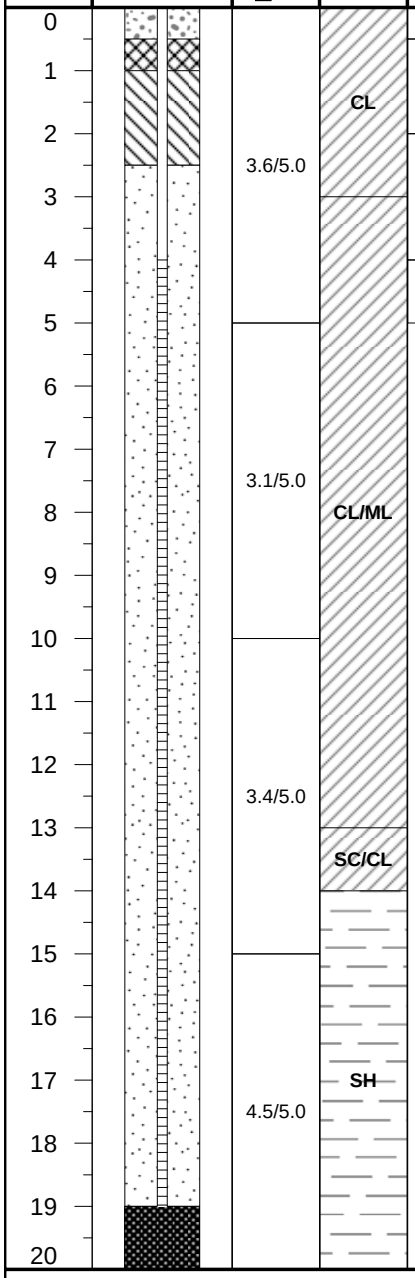
Exide Technologies

Log of Boring: PMW-19R

Frisco Recycling Center
Frisco, TX

PBW Project No. 1755

Completion Date:	2/26/2013	Drilling Method:	HSA
Drilling Company:	Strata Core Services, LLC	Borehole Diameter (in.):	7.75
Driller:	Dan Spaust	Total Depth (ft):	20
Driller's License:	3038M	Northing:	7104749.0329
Logged By:	Roberta Russell	Easting:	2481299.2174
Field Supervisor:	Tim Jennings, P.G.	Ground Elev. (ft AMSL):	678.45
Sampling Method:	5' Split Spoon	TOC Elev. (ft AMSL):	681.79



Lithologic Description

(0 - 3.0) CLAY with trace gravel, dark reddish brown, moist, soft to firm, low to medium plasticity, abundant calcareous nodules.

(3.0 - 13.0) Clayey SILT/Silty CLAY, dark reddish brown, yellowish brown from 7-10', slightly moist, very hard, low plasticity, friable from 5-6.5'.

(13.0 - 14.0) Clayey SAND/Sandy CLAY, light yellowish brown with orange staining (iron oxide), moist, soft, low plasticity.

(14.0 - 19.0) SHALE, dark gray with orange staining (iron oxide along fractures and bedding planes), dry to slightly moist, soft to firm, high plasticity, weathered.

(19.0 - 20.0) SHALE, dark gray, dry, very hard.

PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664
Tel (512) 671-3434 Fax (512) 671-3446

Notes:
This log should not to be used separately from report.

Static Water Level (3/11/13)
Depth to water (ft BGS): DRY

Annular Materials
(0.0 - 0.5) Concrete
(0.5 - 1.0) Bentonite Grout
(1.0 - 2.5) Bentonite Hole Plug
(2.5 -19.0) 20/40 Silica Sand
(19.0 - 20.0) Sloughed Material

Well Materials
(+3.34 - 4.0) Casing, 2" Sch 40 FJT PVC
(4.0 - 19.0) Screen, 2" Sch 40 FJT PVC, 0.010 slot

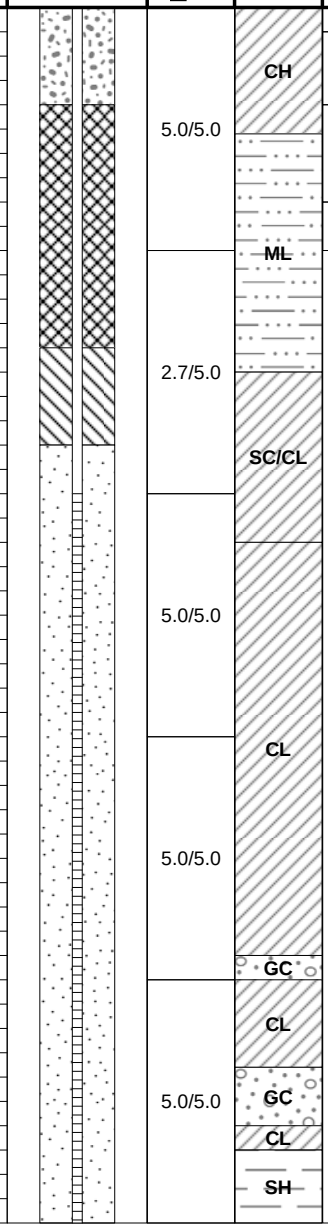
Exide Technologies

Log of Boring: PMW-20R

Frisco Recycling Center
Frisco, TX

PBW Project No. 1755

Completion Date:	2/26/2013	Drilling Method:	HSA
Drilling Company:	Strata Core Services, LLC	Borehole Diameter (in.):	7.75
Driller:	Chris Combs	Total Depth (ft):	25
Driller's License:	56033	Northing:	7104442.6782
Logged By:	Roberta Russell	Easting:	2480409.0533
Field Supervisor:	Tim Jennings, P.G.	Ground Elev. (ft AMSL):	645.2
Sampling Method:	5' Split Spoon	TOC Elev. (ft AMSL):	648.09



Lithologic Description
(0 - 2.6) CLAY, dark reddish brown, moist, soft, high plasticity.
(2.6 - 7.5) Clayey SILT, dark reddish brown, dry to moist, very hard, low plasticity, trace to moderate calcareous nodules.
(7.5 - 11.0) Sandy CLAY/Clayey SAND, moist, soft to firm, low plasticity, more clay with depth, abundant calcareous nodules.
(11.0 - 19.5) CLAY, reddish yellow, with trace to moderate gravel, moist, firm, low to medium plasticity, very fine to medium gravel (5-20%) in clay matrix.
(19.5 - 20.0) GRAVEL with clay; reddish yellow, wet, very soft, ~20-30% clay matrix.
(20.0 - 21.8) CLAY with gravel; reddish yellow, wet, soft to firm, low to medium plasticity clay, <5% carbonate gravel in clay.
(21.8 - 23.0) GRAVEL with clay; reddish yellow, wet, soft, 30-40% low to medium plasticity clay matrix in fine to medium gravel.
(23.0 - 23.5) CLAY with gravel; reddish yellow, very moist, hard, low to medium plasticity clay, 30-40% fine to medium gravel.
(23.5 - 25.0) SHALE, dark gray, dry, very hard, low to medium plasticity, fissile, slightly weathered.

PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664
Tel (512) 671-3434 Fax (512) 671-3446

Notes:
This log should not to be used separately from report.

Static Water Level (3/11/13)
Depth to water (ft BGS): 16.02

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 7.0) Bentonite Grout
(7.0 - 9.0) Bentonite Hole Plug
(9.0 - 25.0) 20/40 Silica Sand

Well Materials
(+2.89 - 10.0) Casing, 2" Sch 40 FJT PVC
(10.0 - 25.0) Screen, 2" Sch 40 FJT PVC, 0.010 slot

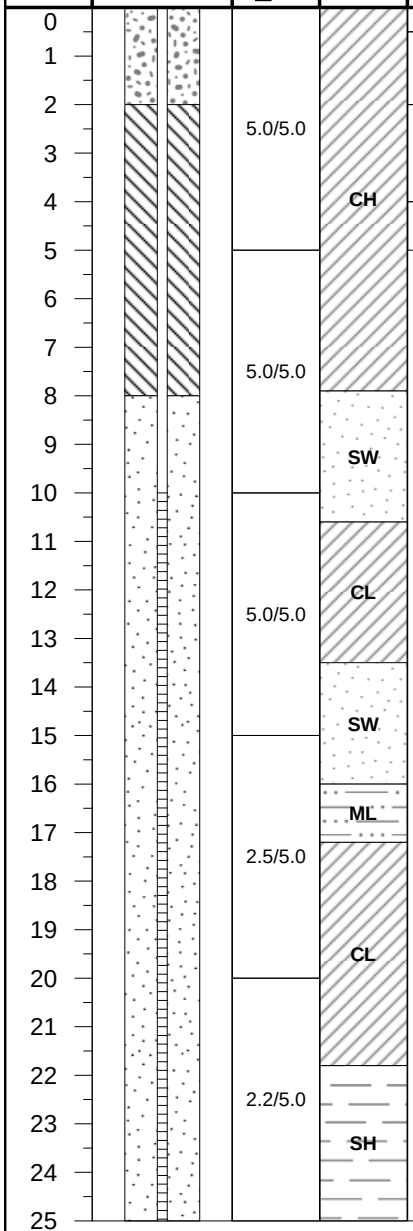
Exide Technologies

Log of Boring: LMW-21

Frisco Recycling Center
Frisco, TX

PBW Project No. 1755

Completion Date:	2/27/2013	Drilling Method:	HSA
Drilling Company:	Strata Core Services, LLC	Borehole Diameter (in.):	7.75
Driller:	Chris Combs	Total Depth (ft):	25
Driller's License:	56033	Northing:	7104289.0201
Logged By:	Tim Jennings, P.G.	Easting:	2480478.4778
Field Supervisor:	Tim Jennings, P.G.	Ground Elev. (ft AMSL):	645.12
Sampling Method:	5' Split Spoon	TOC Elev. (ft AMSL):	648.28



Lithologic Description
(0 - 1.1) Sandy, gravelly CLAY; wet, very soft, slow dilatancy, high plasticity clay, ~20-30% fine sand and fine gravel.
(1.1 - 7.9) Silty CLAY, dark gray, moist, firm to hard, no dilatancy, medium to high plasticity, trace carbonate gravel below 5'.
(7.9 - 10.6) Clayey, gravelly SAND; light brown, fine to coarse sand, moist, soft to firm, medium plasticity clay, ~10-20% clay and ~10-20% fine to medium gravel.
(10.6 - 13.5) Clayey SILT, light brown, moist, soft to firm, slow dilatancy, medium plasticity.
(13.5 - 16.0) Gravelly, clayey SAND; light brown, fine to coarse sand, moist to wet, wet at 15.8-16', firm to soft, ~40-50% fine to medium gravel, ~5-10% clay above 15'.
(16.0 - 17.2) Sandy SILT, light brown, wet, soft, medium plasticity.
(17.2 - 21.8) Sandy, gravelly CLAY; wet to dry, firm to hard, medium plasticity clay, fine to medium gravel (~5-10%) and fine to coarse sand (~10-20%) in clay matrix.
(21.8 - 25.0) SHALE, brownish gray, dry, very hard.

PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664
Tel (512) 671-3434 Fax (512) 671-3446

Notes:
This log should not to be used separately from report.

Static Water Level (3/11/13)
Depth to water (ft BGS): 16.94

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 8.0) Bentonite Hole Plug
(8.0 - 25.0) 20/40 Silica Sand

Well Materials
(+3.16 - 10.0) Casing, 2" Sch 40 FJT PVC
(10.0 - 25.0) Screen, 2" Sch 40 FJT PVC, 0.010 slot

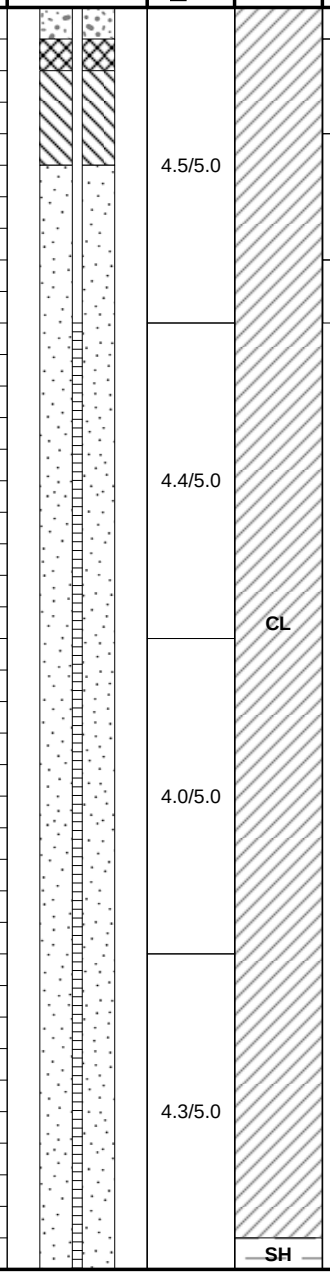
Exide Technologies

Log of Boring: LMW-22

Frisco Recycling Center
Frisco, TX

PBW Project No. 1755

Completion Date:	2/27/2013	Drilling Method:	HSA
Drilling Company:	Strata Core Services, LLC	Borehole Diameter (in.):	7.75
Driller:	Dan Spaust	Total Depth (ft):	20
Driller's License:	3038M	Northing:	7103973.4829
Logged By:	Roberta Russell	Easting:	2480733.8536
Field Supervisor:	Tim Jennings, P.G.	Ground Elev. (ft AMSL):	643.32
Sampling Method:	5' Split Spoon	TOC Elev. (ft AMSL):	646.71



Lithologic Description

(0 - 12.5) CLAY/Silty CLAY, dark reddish brown, yellowish brown from 9-12.5', moist, soft to firm, low to medium plasticity, ~10% calcareous nodules from 9-12.5'.

(12.5 - 13.0) CLAY with gravel; yellowish brown, moist, soft, low plasticity, ~30-40% gravel in clay matrix.

(13.0 - 16.0) Sandy CLAY, yellowish brown, moist, soft, low plasticity.

(16.0 - 17.0) Gravelly CLAY, yellowish brown, gravel in ~30-40% clay matrix.

(17.0 - 19.5) Silty CLAY, grayish brown with orange staining, very moist, soft to firm, low plasticity.

(19.5 - 20.0) SHALE, gray, dry, hard, low to medium plasticity.

Notes:
This log should not to be used separately from report.

Static Water Level (3/11/13)
Depth to water (ft BGS): 13.78

Annular Materials
(0.0 - 0.5) Concrete
(0.5 - 1.0) Bentonite Grout
(1.0 - 2.5) Bentonite Hole Plug
(2.5 - 20.0) 20/40 Silica Sand

Well Materials
(+3.67 - 5.0) Casing, 2" Sch 40 FJT PVC
(5.0 - 20.0) Screen, 2" Sch 40 FJT PVC, 0.010 slot

PBW
Pastor, Behling & Wheeler, LLC
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Round Rock, TX 78664
Tel (512) 671-3434 Fax (512) 671-3446

Class 2 Landfill Groundwater Data Summary

Sample I.D.	Sample Date	Total Metals				Dissolved Metals[4]			
		Arsenic (mg/L)	Cadmium (mg/L)	Lead (mg/L)	Selenium (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Lead (mg/L)	Selenium (mg/L)
^{SW}GW PCL[1]		**NA[3]**	**NA[3]**	**NA[3]**	**0.02**	**0.34**	**0.00908**	**0.0688**	**0.02**
^{GW}GW$_{Class3}$ PCL		**1**	**0.5**	**1.5**	**5**	**1**	**0.5**	**1.5**	**5**
Up-gradient Wells									
2012-LMW-19[2]	1/18/2012	--	<0.00035	<0.0029	--	--	<0.00035	<0.0029	--
PMW-19R[2]	3/12/2013	DRY							
Cross-gradient Wells									
LMW-8	3/13/2013	< 0.00328	< 0.00035	< 0.0029	0.0104 J	< 0.00328	0.00035 UJ	< 0.0029	0.00570 J
LMW-9	3/13/2013	< 0.00328	< 0.00035	< 0.0029	0.491	< 0.00328	0.00035 UJ	< 0.0029	0.489
Down-gradient Wells									
LMW-5	3/13/2013	< 0.00328	< 0.00035	< 0.0029	< 0.00417	< 0.00328	0.00035 UJ	< 0.0029	0.00417 UJ
LMW-17	3/12/2013	< 0.00328	< 0.00035	< 0.0029	< 0.00417	< 0.00328	< 0.00035	< 0.0029	< 0.00417
PMW-20R[2]	3/12/2013	< 0.00328	< 0.00035	< 0.0029	0.00931 J	< 0.00328	0.00035 UJ	< 0.0029	0.00509 J
LMW-21	3/12/2013	< 0.00328	< 0.00035	< 0.0029	< 0.00417	< 0.00328	< 0.00035	< 0.0029	< 0.00417
LMW-21 (Dup)	3/12/2013	< 0.00328	< 0.00035	< 0.0029	< 0.00417	< 0.00328	< 0.00035	< 0.0029	< 0.00417
LMW-22	3/13/2013	< 0.00328	< 0.00035	< 0.0029	< 0.00417	< 0.00328	0.00035 UJ	< 0.0029	0.00417 UJ

Notes:

1. ^{SW}GW PCL conservatively set at the ^{SW}SW RBEL (i.e., no dilution factor). ^{SW}SW RBEL based on acute ecological criteria for the North Tributary (intermittent stream). Cadmium and lead RBELs calculated based on a hardness value of 106 mg/L for Lake Lewisville, Segment 0823.
2. Wells PMW-19R and PMW-20R are replacement wells for LMW-19 and PMW-20, respectively. LMW-19 and PMW-20 were plugged and replaced in February 2013 due to absence of boring logs and well construction data.
3. Per TRRP-24, specific aquatic life criteria for arsenic, cadmium and lead apply to dissolved rather than total concentrations since the dissolved phase represents the bioavailable form.
4. Samples for dissolved analysis field filtered with 0.45 micron filter.

mg/L - milligrams/Liter.

Data Qualifiers: J = estimated concentration: reported concentration is between the sample detection limit and method quantitation limit; UJ = analyte was not detected above the reported Sample Detection Limit (SDL); the SDL is approximate.

NA - Not Applicable.

"--" - Not Analyzed.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Tel: (713)690-4444

TestAmerica Job ID: 600-69922-1
Client Project/Site: Exide Recycling Center, Frisco TX Projec

For:
Pastor, Behling & Wheeler LLC
2201 Double Creek Dr
Suite 4004
Round Rock, Texas 78664

Attn: Eric Pastor

Authorized for release by:
3/25/2013 11:25:10 AM
Cathy Upton
Data Delivery Analyst
cathy.upton@testamericainc.com

Designee for

Sachin Kudchadkar
Project Manager II
sachin.kudchadkar@testamericainc.com

Table of Contents

TestAmerica Houston
TRRP Data Package Cover Page

Job Number: 600-69922-1

Project Name/Number: Exide Recycling Center, Frisco TX Project

This Data Package consists of:

This signature page, the laboratory review checklist, and the following Reportable Data:

- ☒ R1 Field Chain-of-Custody Form
- ☒ R2 Sample Identification Cross-reference;
- ☒ R3 Test Reports (Analytical Data Sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC Chapter 5
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- ☒ R4 Surrogate Recovery Data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- ☒ R5 Test Reports/Summary Forms for Blank Samples;
- ☒ R6 Test Reports/Summary Forms for Laboratory Control Samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - d) The laboratory's LCS QC limits
- ☒ R7 Test Reports for Matrix Spike/Matrix Spike Duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked sample,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- ☒ R8 Laboratory analytical duplicates (if applicable) recovery and precision, including:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- ☒ R9 List of method quantitation limit (MQL) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 Other problems or anomalies

The exception report for each "No" or "Not Reviewed (NR)" item in the Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under Texas laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm, to the best of my knowledge, that all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Cathy Upton		03/25/2013
Name (printed)	Signature	Date
Data Delivery Analyst		
Official Title (printed)		

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: TestAmerica-Houston	LRC Date: 03/25/13
Project Name: Exide Recycling Center, Frisco TX	Laboratory Job Number: 600-69922
Reviewer Name: TWR	Prep Batch Number(s): 600-101618- ICP

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soil/solid samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				X	1
		Were MS/MSD RPDs within laboratory QC limits?				X	1
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?				X	2
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: TestAmerica-Houston	LRC Date: 03/25/13
Project Name: Exide Recycling Center, Frisco TX	Laboratory Job Number: 600-69922
Reviewer Name: TWR	Prep Batch Number(s): 600-101618- ICP

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?			X		
		Were percent RSDs or correlation coefficient criteria met?			X		
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?			X		
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	**Raw data (NELAC section 5.5.10)**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?			X		
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X	3
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: TestAmerica-Houston	LRC Date: 03/25/13
Project Name: Exide Recycling Center, Frisco TX	Laboratory Job Number: 600-69922
Reviewer Name: TWR	Prep Batch Number(s): 600-101618- ICP

ER #[1]	DESCRIPTION
1	The laboratory selected a sample from another group to perform as the MS/MSD.
2	The laboratory selected a sample from another group to perform as the DUP.
3	The laboratory selected a sample from another group to perform as the PDS and SD.

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

Detection Check Standard

Matrix:	Water
Method:	200.7/6010
Preparation:	200.7P/3010
Date Analyzed:	12/3/2012
Date Prepared:	11/28/2012
Instrument:	Thermo 6500
TALs Batches:	94513, 94244(prep)
Units:	mg/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Aluminum	0.006	0.02	0.0197	0.5
Antimony	0.0063	0.01	0.0106	0.05
Arsenic	0.0033	0.01	0.0071	0.01
Barium	0.0022	0.005	0.0052	0.02
Beryllium	0.00134	0.002	0.0039	0.005
Boron	0.0077	0.02	0.0228	0.2
Cadmium	0.00073	0.001	0.001	0.005
Calcium	0.022	0.05	0.0916	1
Chromium	0.0016	0.002	0.0035	0.01
Cobalt	0.00063	0.001	0.0008	0.01
Copper	0.0014	0.002	0.0005	0.01
Iron	0.087	0.1	0.0965	0.4
Lithium	0.0024	0.005	0.0066	0.2
Lead	0.0029	0.005	0.0053	0.01
Selenium	0.0042	0.01	0.0105	0.04
Manganese	0.00084	0.002	0.0019	0.01
Molybdenum	0.0027	0.005	0.0057	0.01
Nickel	0.00179	0.005	0.0048	0.01
Silver	0.0012	0.0025	0.0026	0.01
Sodium	0.02	0.05	0.381	1
Strontium	0.0005	0.001	0.0015	0.005
Thallium	0.0078	0.02	0.0203	0.03
Tin	0.0028	0.005	0.0053	0.01
Titanium	0.0011	0.002	0.002	0.01
Vanadium	0.0017	0.002	0.0041	0.01
Zinc	0.0022	0.005	0.0058	0.01

Job ID: 600-69922-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative
600-69922-1

Comments
No additional comments.

Receipt
The samples were received on 3/13/2013 9:04 AM; the samples arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 1.0º C.

Method Summary

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-69922-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL HOU

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-69922-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-69922-1	LMW-17	Water	03/12/13 10:40	03/13/13 09:04
600-69922-2	LMW-21	Water	03/12/13 14:45	03/13/13 09:04
600-69922-3	Dup-1	Water	03/12/13 00:00	03/13/13 09:04

Client Sample ID: LMW-17

Lab Sample ID: 600-69922-1

Date Collected: 03/12/13 10:40

Matrix: Water

Date Received: 03/13/13 09:04

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/13/13 16:55	03/14/13 14:56	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/13/13 16:55	03/14/13 14:56	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/13/13 16:55	03/14/13 14:56	1
Selenium	0.00417	U	0.0400	0.00417	mg/L		03/13/13 16:55	03/14/13 14:56	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/13/13 16:55	03/14/13 14:59	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/13/13 16:55	03/14/13 14:59	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/13/13 16:55	03/14/13 14:59	1
Selenium	0.00417	U	0.0400	0.00417	mg/L		03/13/13 16:55	03/14/13 14:59	1

Client Sample ID: LMW-21

Lab Sample ID: 600-69922-2

Date Collected: 03/12/13 14:45

Matrix: Water

Date Received: 03/13/13 09:04

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/13/13 16:55	03/14/13 15:01	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/13/13 16:55	03/14/13 15:01	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/13/13 16:55	03/14/13 15:01	1
Selenium	0.00417	U	0.0400	0.00417	mg/L		03/13/13 16:55	03/14/13 15:01	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/13/13 16:55	03/14/13 15:04	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/13/13 16:55	03/14/13 15:04	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/13/13 16:55	03/14/13 15:04	1
Selenium	0.00417	U	0.0400	0.00417	mg/L		03/13/13 16:55	03/14/13 15:04	1

Client Sample ID: Dup-1

Lab Sample ID: 600-69922-3

Date Collected: 03/12/13 00:00

Matrix: Water

Date Received: 03/13/13 09:04

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/13/13 16:55	03/14/13 15:06	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/13/13 16:55	03/14/13 15:06	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/13/13 16:55	03/14/13 15:06	1
Selenium	0.00417	U	0.0400	0.00417	mg/L		03/13/13 16:55	03/14/13 15:06	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/13/13 16:55	03/14/13 15:09	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/13/13 16:55	03/14/13 15:09	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/13/13 16:55	03/14/13 15:09	1
Selenium	0.00417	U	0.0400	0.00417	mg/L		03/13/13 16:55	03/14/13 15:09	1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 600-101618/1-A
Matrix: Water
Analysis Batch: 101709

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 101618

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/13/13 16:55	03/14/13 14:52	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/13/13 16:55	03/14/13 14:52	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/13/13 16:55	03/14/13 14:52	1
Selenium	0.00417	U	0.0400	0.00417	mg/L		03/13/13 16:55	03/14/13 14:52	1

Lab Sample ID: LCS 600-101618/2-A
Matrix: Water
Analysis Batch: 101709

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 101618

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.9977		mg/L		100	80 - 120
Cadmium	0.500	0.4901		mg/L		98	80 - 120
Lead	1.00	0.9532		mg/L		95	80 - 120
Selenium	1.00	1.004		mg/L		100	80 - 120

Unadjusted Detection Limits

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-69922-1

Method: 6010B - Metals (ICP)

Analyte	MQL	MDL	Units	Method
Arsenic	0.0100	0.00328	mg/L	6010B
Cadmium	0.00500	0.000350	mg/L	6010B
Lead	0.0100	0.00290	mg/L	6010B
Selenium	0.0400	0.00417	mg/L	6010B

Method: 6010B - Metals (ICP) - Dissolved

Analyte	MQL	MDL	Units	Method
Arsenic	0.0100	0.00328	mg/L	6010B
Cadmium	0.00500	0.000350	mg/L	6010B
Lead	0.0100	0.00290	mg/L	6010B
Selenium	0.0400	0.00417	mg/L	6010B

Metals

Prep Batch: 101618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-69922-1	LMW-17	Total/NA	Water	3010A	
600-69922-1	LMW-17	Dissolved	Water	3010A	
600-69922-2	LMW-21	Total/NA	Water	3010A	
600-69922-2	LMW-21	Dissolved	Water	3010A	
600-69922-3	Dup-1	Total/NA	Water	3010A	
600-69922-3	Dup-1	Dissolved	Water	3010A	
LCS 600-101618/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 600-101618/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 101709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-69922-1	LMW-17	Total/NA	Water	6010B	101618
600-69922-1	LMW-17	Dissolved	Water	6010B	101618
600-69922-2	LMW-21	Total/NA	Water	6010B	101618
600-69922-2	LMW-21	Dissolved	Water	6010B	101618
600-69922-3	Dup-1	Total/NA	Water	6010B	101618
600-69922-3	Dup-1	Dissolved	Water	6010B	101618
LCS 600-101618/2-A	Lab Control Sample	Total/NA	Water	6010B	101618
MB 600-101618/1-A	Method Blank	Total/NA	Water	6010B	101618

Lab Chronicle

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-69922-1

Client Sample ID: LMW-17

Lab Sample ID: 600-69922-1

Date Collected: 03/12/13 10:40

Matrix: Water

Date Received: 03/13/13 09:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			101618	03/13/13 16:55	NER	TAL HOU
Total/NA	Analysis	6010B		1	101709	03/14/13 14:56	DCL	TAL HOU
Dissolved	Prep	3010A			101618	03/13/13 16:55	NER	TAL HOU
Dissolved	Analysis	6010B		1	101709	03/14/13 14:59	DCL	TAL HOU

Client Sample ID: LMW-21

Lab Sample ID: 600-69922-2

Date Collected: 03/12/13 14:45

Matrix: Water

Date Received: 03/13/13 09:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			101618	03/13/13 16:55	NER	TAL HOU
Total/NA	Analysis	6010B		1	101709	03/14/13 15:01	DCL	TAL HOU
Dissolved	Prep	3010A			101618	03/13/13 16:55	NER	TAL HOU
Dissolved	Analysis	6010B		1	101709	03/14/13 15:04	DCL	TAL HOU

Client Sample ID: Dup-1

Lab Sample ID: 600-69922-3

Date Collected: 03/12/13 00:00

Matrix: Water

Date Received: 03/13/13 09:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			101618	03/13/13 16:55	NER	TAL HOU
Total/NA	Analysis	6010B		1	101709	03/14/13 15:06	DCL	TAL HOU
Dissolved	Prep	3010A			101618	03/13/13 16:55	NER	TAL HOU
Dissolved	Analysis	6010B		1	101709	03/14/13 15:09	DCL	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Certification Summary

Client: Pastor, Behling & Wheeler LLC
TestAmerica Job ID: 600-69922-1
Project/Site: Exide Recycling Center, Frisco TX Projec

Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-12
Louisiana	NELAP	6	01967	06-30-13
Oklahoma	State Program	6	9503	08-31-13
Texas	NELAP	6	T104704223-10-6-TX	10-31-13
USDA	Federal		P330-08-00217	04-01-14
Utah	NELAP	8	GULF	10-31-13

[redacted]

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes☐ No☐

Test America THE LEADER

600-69922 Chain of Custody

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
Pastor, Behling & Wheeler	Will Vinson	3/12/13	225379
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
2201 Double Creek Dr, Ste 4004	512 617-3434		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Round Rock / TX / 78664	J. Brayton		
Project Name and Location (State)	**Carrier/Waybill Number**		
Eagle Ford Monitoring / Texas			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: Total Metals Pb	Dissolved Metals Pb	Sulfate	Special Instructions/ Conditions of Receipt
LMW-17	3/12/13	1040		X					2				X	X	X	Run all Samples for pb, cd, As, Se, & Sc
LMW-21	3/12/13	1445		X					2				X	X	X	
Dup 1	3/12/13	—		X					2				X	X	X	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	3/12/13	1510	1. Received By	3/12/13	1510
2. Relinquished By	3/12/13	1700	2. Received By	3/13/13	904
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Login Sample Receipt Checklist

Client: Pastor, Behling & Wheeler LLC

Job Number: 600-69922-1

Login Number: 69922

List Source: TestAmerica Houston

List Number: 1

Creator: Pulumbarit, Josh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Tel: (713)690-4444

TestAmerica Job ID: 600-70014-1
Client Project/Site: Exide Recycling Center, Frisco TX Projec

For:
Pastor, Behling & Wheeler LLC
2201 Double Creek Dr
Suite 4004
Round Rock, Texas 78664

Attn: Eric Pastor

Authorized for release by:
3/25/2013 10:38:33 AM
Cathy Upton
Data Delivery Analyst
cathy.upton@testamericainc.com

Designee for

Sachin Kudchadkar
Project Manager II
sachin.kudchadkar@testamericainc.com

Table of Contents

TestAmerica Houston
TRRP Data Package Cover Page

Job Number: 600-70014-1

Project Name/Number: Exide Recycling Center, Frisco TX Project

This Data Package consists of:

This signature page, the laboratory review checklist, and the following Reportable Data:

- ☒ R1 Field Chain-of-Custody Form
- ☒ R2 Sample Identification Cross-reference;
- ☒ R3 Test Reports (Analytical Data Sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC Chapter 5
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- ☒ R4 Surrogate Recovery Data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- ☒ R5 Test Reports/Summary Forms for Blank Samples;
- ☒ R6 Test Reports/Summary Forms for Laboratory Control Samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - d) The laboratory's LCS QC limits
- ☒ R7 Test Reports for Matrix Spike/Matrix Spike Duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked sample,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- ☒ R8 Laboratory analytical duplicates (if applicable) recovery and precision, including:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- ☒ R9 List of method quantitation limit (MQL) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 Other problems or anomalies

The exception report for each "No" or "Not Reviewed (NR)" item in the Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under Texas laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm, to the best of my knowledge, that all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Cathy Upton		03/25/2013
Name (printed)	Signature	Date
Data Delivery Analyst		
Official Title (printed)		

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: TestAmerica-Houston	LRC Date: 03/20/13
Project Name: Exide Recycling Center, Frisco TX	Laboratory Job Number: 600-70014
Reviewer Name: TWR	Prep Batch Number(s): 600-101673- ICP

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soil/solid samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?				X	1
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: TestAmerica-Houston	LRC Date: 03/20/13
Project Name: Exide Recycling Center, Frisco TX	Laboratory Job Number: 600-70014
Reviewer Name: TWR	Prep Batch Number(s): 600-101673- ICP

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?			X		
		Were percent RSDs or correlation coefficient criteria met?			X		
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?			X		
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?		X			2
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	**Raw data (NELAC section 5.5.10)**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?			X		
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: TestAmerica-Houston	LRC Date: 03/20/13
Project Name: Exide Recycling Center, Frisco TX	Laboratory Job Number: 600-70014
Reviewer Name: TWR	Prep Batch Number(s): 600-101673- ICP

ER #[1]	DESCRIPTION
1	The laboratory selected a sample from another group to perform as the DUP.
2	The continuing calibration verification (CCV) for cadmium and selenium associated with batch 101814 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

Detection Check Standard

Matrix:	Water
Method:	200.7/6010
Preparation:	200.7P/3010
Date Analyzed:	12/3/2012
Date Prepared:	11/28/2012
Instrument:	Thermo 6500
TALs Batches:	94513, 94244(prep)
Units:	mg/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Aluminum	0.006	0.02	0.0197	0.5
Antimony	0.0063	0.01	0.0106	0.05
Arsenic	0.0033	0.01	0.0071	0.01
Barium	0.0022	0.005	0.0052	0.02
Beryllium	0.00134	0.002	0.0039	0.005
Boron	0.0077	0.02	0.0228	0.2
Cadmium	0.00073	0.001	0.001	0.005
Calcium	0.022	0.05	0.0916	1
Chromium	0.0016	0.002	0.0035	0.01
Cobalt	0.00063	0.001	0.0008	0.01
Copper	0.0014	0.002	0.0005	0.01
Iron	0.087	0.1	0.0965	0.4
Lithium	0.0024	0.005	0.0066	0.2
Lead	0.0029	0.005	0.0053	0.01
Selenium	0.0042	0.01	0.0105	0.04
Manganese	0.00084	0.002	0.0019	0.01
Molybdenum	0.0027	0.005	0.0057	0.01
Nickel	0.00179	0.005	0.0048	0.01
Silver	0.0012	0.0025	0.0026	0.01
Sodium	0.02	0.05	0.381	1
Strontium	0.0005	0.001	0.0015	0.005
Thallium	0.0078	0.02	0.0203	0.03
Tin	0.0028	0.005	0.0053	0.01
Titanium	0.0011	0.002	0.002	0.01
Vanadium	0.0017	0.002	0.0041	0.01
Zinc	0.0022	0.005	0.0058	0.01

Job ID: 600-70014-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative
600-70014-1

Comments
No additional comments.

Receipt
The samples were received on 3/14/2013 8:39 AM; the samples arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 1.7º C.

Method Summary

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-70014-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL HOU

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-70014-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-70014-1	PMW-20R	Water	03/12/13 15:50	03/14/13 08:39
600-70014-2	LMW-9	Water	03/13/13 09:10	03/14/13 08:39
600-70014-3	LMW-8	Water	03/13/13 09:40	03/14/13 08:39
600-70014-4	LMW-22	Water	03/13/13 10:10	03/14/13 08:39
600-70014-5	LMW-5	Water	03/13/13 10:50	03/14/13 08:39

Client Sample ID: PMW-20R

Lab Sample ID: 600-70014-1

Date Collected: 03/12/13 15:50

Matrix: Water

Date Received: 03/14/13 08:39

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/14/13 12:17	03/15/13 18:27	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/14/13 12:17	03/15/13 18:27	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/14/13 12:17	03/15/13 18:27	1
Selenium	**0.00931**	**J**	0.0400	0.00417	mg/L		03/14/13 12:17	03/15/13 18:27	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/14/13 12:17	03/15/13 19:14	1
Cadmium	0.000350	U ^	0.00500	0.000350	mg/L		03/14/13 12:17	03/15/13 19:14	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/14/13 12:17	03/15/13 19:14	1
Selenium	**0.00509**	**J**	0.0400	0.00417	mg/L		03/14/13 12:17	03/18/13 13:42	1

Client Sample ID: LMW-9

Lab Sample ID: 600-70014-2

Date Collected: 03/13/13 09:10

Matrix: Water

Date Received: 03/14/13 08:39

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/14/13 12:17	03/15/13 18:39	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/14/13 12:17	03/15/13 18:39	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/14/13 12:17	03/15/13 18:39	1
Selenium	**0.491**		0.0400	0.00417	mg/L		03/14/13 12:17	03/15/13 18:39	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/14/13 12:17	03/15/13 19:25	1
Cadmium	0.000350	U ^	0.00500	0.000350	mg/L		03/14/13 12:17	03/15/13 19:25	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/14/13 12:17	03/15/13 19:25	1
Selenium	**0.489**		0.0400	0.00417	mg/L		03/14/13 12:17	03/15/13 19:25	1

Client Sample ID: LMW-8

Lab Sample ID: 600-70014-3

Date Collected: 03/13/13 09:40

Matrix: Water

Date Received: 03/14/13 08:39

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/14/13 12:17	03/15/13 18:43	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/14/13 12:17	03/15/13 18:43	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/14/13 12:17	03/15/13 18:43	1
Selenium	**0.0104**	**J**	0.0400	0.00417	mg/L		03/14/13 12:17	03/15/13 18:43	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/14/13 12:17	03/15/13 19:29	1
Cadmium	0.000350	U ^	0.00500	0.000350	mg/L		03/14/13 12:17	03/15/13 19:29	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/14/13 12:17	03/15/13 19:29	1
Selenium	**0.00570**	**J**	0.0400	0.00417	mg/L		03/14/13 12:17	03/18/13 13:54	1

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-70014-1

Client Sample ID: LMW-22

Lab Sample ID: 600-70014-4

Date Collected: 03/13/13 10:10

Matrix: Water

Date Received: 03/14/13 08:39

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/14/13 12:17	03/15/13 18:47	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/14/13 12:17	03/15/13 18:47	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/14/13 12:17	03/15/13 18:47	1
Selenium	0.00417	U	0.0400	0.00417	mg/L		03/14/13 12:17	03/15/13 18:47	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/14/13 12:17	03/15/13 19:33	1
Cadmium	0.000350	U ^	0.00500	0.000350	mg/L		03/14/13 12:17	03/15/13 19:33	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/14/13 12:17	03/15/13 19:33	1
Selenium	0.00417	U ^	0.0400	0.00417	mg/L		03/14/13 12:17	03/15/13 19:33	1

Client Sample ID: LMW-5

Lab Sample ID: 600-70014-5

Date Collected: 03/13/13 10:50

Matrix: Water

Date Received: 03/14/13 08:39

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/14/13 12:17	03/15/13 18:50	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/14/13 12:17	03/15/13 18:50	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/14/13 12:17	03/15/13 18:50	1
Selenium	0.00417	U	0.0400	0.00417	mg/L		03/14/13 12:17	03/15/13 18:50	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/14/13 12:17	03/15/13 19:37	1
Cadmium	0.000350	U ^	0.00500	0.000350	mg/L		03/14/13 12:17	03/15/13 19:37	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/14/13 12:17	03/15/13 19:37	1
Selenium	0.00417	U ^	0.0400	0.00417	mg/L		03/14/13 12:17	03/15/13 19:37	1

Definitions/Glossary

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-70014-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 600-101673/1-A
Matrix: Water
Analysis Batch: 101814

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 101673

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00328	U	0.0100	0.00328	mg/L		03/14/13 12:17	03/15/13 18:20	1
Cadmium	0.000350	U	0.00500	0.000350	mg/L		03/14/13 12:17	03/15/13 18:20	1
Lead	0.00290	U	0.0100	0.00290	mg/L		03/14/13 12:17	03/15/13 18:20	1
Selenium	0.00417	U	0.0400	0.00417	mg/L		03/14/13 12:17	03/15/13 18:20	1

Lab Sample ID: MB 600-101673/1-A
Matrix: Water
Analysis Batch: 101898

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 101673

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.00417	U	0.0400	0.00417	mg/L		03/14/13 12:17	03/18/13 13:27	1

Lab Sample ID: LCS 600-101673/2-A
Matrix: Water
Analysis Batch: 101814

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 101673

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.075		mg/L		107	80 - 120
Cadmium	0.500	0.5479		mg/L		110	80 - 120
Lead	1.00	1.085		mg/L		109	80 - 120
Selenium	1.00	1.097		mg/L		110	80 - 120

Lab Sample ID: LCS 600-101673/2-A
Matrix: Water
Analysis Batch: 101898

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 101673

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	1.00	1.033		mg/L		103	80 - 120

Lab Sample ID: 600-70014-1 MS
Matrix: Water
Analysis Batch: 101814

Client Sample ID: PMW-20R
Prep Type: Total/NA
Prep Batch: 101673

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00328	U	1.00	1.123		mg/L		112	75 - 125
Cadmium	0.000350	U	0.500	0.5485		mg/L		110	75 - 125
Lead	0.00290	U	1.00	1.100		mg/L		110	75 - 125
Selenium	0.00931	J	1.00	1.131		mg/L		112	75 - 125

Lab Sample ID: 600-70014-1 MSD
Matrix: Water
Analysis Batch: 101814

Client Sample ID: PMW-20R
Prep Type: Total/NA
Prep Batch: 101673

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00328	U	1.00	1.142		mg/L		114	75 - 125	2	20
Cadmium	0.000350	U	0.500	0.5573		mg/L		111	75 - 125	2	20
Lead	0.00290	U	1.00	1.117		mg/L		112	75 - 125	2	20
Selenium	0.00931	J	1.00	1.152		mg/L		114	75 - 125	2	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 600-70014-1 MS
Matrix: Water
Analysis Batch: 101814

Client Sample ID: PMW-20R
Prep Type: Dissolved
Prep Batch: 101673

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00328	U	1.00	1.132		mg/L		113	75 - 125
Cadmium	0.000350	U ^	0.500	0.5533		mg/L		111	75 - 125
Lead	0.00290	U	1.00	1.103		mg/L		110	75 - 125
Selenium	0.00437		1.00	1.143		mg/L		114	75 - 125

Lab Sample ID: 600-70014-1 MSD
Matrix: Water
Analysis Batch: 101814

Client Sample ID: PMW-20R
Prep Type: Dissolved
Prep Batch: 101673

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00328	U	1.00	1.124		mg/L		112	75 - 125	1	20
Cadmium	0.000350	U ^	0.500	0.5477		mg/L		110	75 - 125	1	20
Lead	0.00290	U	1.00	1.091		mg/L		109	75 - 125	1	20
Selenium	0.00437		1.00	1.131		mg/L		113	75 - 125	1	20

Unadjusted Detection Limits

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-70014-1

Method: 6010B - Metals (ICP)

Analyte	MQL	MDL	Units	Method
Arsenic	0.0100	0.00328	mg/L	6010B
Cadmium	0.00500	0.000350	mg/L	6010B
Lead	0.0100	0.00290	mg/L	6010B
Selenium	0.0400	0.00417	mg/L	6010B

Method: 6010B - Metals (ICP) - Dissolved

Analyte	MQL	MDL	Units	Method
Arsenic	0.0100	0.00328	mg/L	6010B
Cadmium	0.00500	0.000350	mg/L	6010B
Lead	0.0100	0.00290	mg/L	6010B
Selenium	0.0400	0.00417	mg/L	6010B

Metals

Prep Batch: 101673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-70014-1	PMW-20R	Total/NA	Water	3010A	
600-70014-1	PMW-20R	Dissolved	Water	3010A	
600-70014-1 MS	PMW-20R	Total/NA	Water	3010A	
600-70014-1 MS	PMW-20R	Dissolved	Water	3010A	
600-70014-1 MSD	PMW-20R	Total/NA	Water	3010A	
600-70014-1 MSD	PMW-20R	Dissolved	Water	3010A	
600-70014-2	LMW-9	Total/NA	Water	3010A	
600-70014-2	LMW-9	Dissolved	Water	3010A	
600-70014-3	LMW-8	Total/NA	Water	3010A	
600-70014-3	LMW-8	Dissolved	Water	3010A	
600-70014-4	LMW-22	Total/NA	Water	3010A	
600-70014-4	LMW-22	Dissolved	Water	3010A	
600-70014-5	LMW-5	Total/NA	Water	3010A	
600-70014-5	LMW-5	Dissolved	Water	3010A	
LCS 600-101673/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 600-101673/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 101814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-70014-1	PMW-20R	Total/NA	Water	6010B	101673
600-70014-1	PMW-20R	Dissolved	Water	6010B	101673
600-70014-1 MS	PMW-20R	Total/NA	Water	6010B	101673
600-70014-1 MS	PMW-20R	Dissolved	Water	6010B	101673
600-70014-1 MSD	PMW-20R	Total/NA	Water	6010B	101673
600-70014-1 MSD	PMW-20R	Dissolved	Water	6010B	101673
600-70014-2	LMW-9	Total/NA	Water	6010B	101673
600-70014-2	LMW-9	Dissolved	Water	6010B	101673
600-70014-3	LMW-8	Total/NA	Water	6010B	101673
600-70014-3	LMW-8	Dissolved	Water	6010B	101673
600-70014-4	LMW-22	Total/NA	Water	6010B	101673
600-70014-4	LMW-22	Dissolved	Water	6010B	101673
600-70014-5	LMW-5	Total/NA	Water	6010B	101673
600-70014-5	LMW-5	Dissolved	Water	6010B	101673
LCS 600-101673/2-A	Lab Control Sample	Total/NA	Water	6010B	101673
MB 600-101673/1-A	Method Blank	Total/NA	Water	6010B	101673

Analysis Batch: 101898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-70014-1	PMW-20R	Dissolved	Water	6010B	101673
600-70014-3	LMW-8	Dissolved	Water	6010B	101673
LCS 600-101673/2-A	Lab Control Sample	Total/NA	Water	6010B	101673
MB 600-101673/1-A	Method Blank	Total/NA	Water	6010B	101673

Lab Chronicle

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-70014-1

Client Sample ID: PMW-20R

Lab Sample ID: 600-70014-1

Date Collected: 03/12/13 15:50

Matrix: Water

Date Received: 03/14/13 08:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			101673	03/14/13 12:17	NER	TAL HOU
Total/NA	Analysis	6010B		1	101814	03/15/13 18:27	TWR	TAL HOU
Dissolved	Prep	3010A			101673	03/14/13 12:17	NER	TAL HOU
Dissolved	Analysis	6010B		1	101814	03/15/13 19:14	TWR	TAL HOU
Dissolved	Analysis	6010B		1	101898	03/18/13 13:42	DCL	TAL HOU

Client Sample ID: LMW-9

Lab Sample ID: 600-70014-2

Date Collected: 03/13/13 09:10

Matrix: Water

Date Received: 03/14/13 08:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			101673	03/14/13 12:17	NER	TAL HOU
Total/NA	Analysis	6010B		1	101814	03/15/13 18:39	TWR	TAL HOU
Dissolved	Prep	3010A			101673	03/14/13 12:17	NER	TAL HOU
Dissolved	Analysis	6010B		1	101814	03/15/13 19:25	TWR	TAL HOU

Client Sample ID: LMW-8

Lab Sample ID: 600-70014-3

Date Collected: 03/13/13 09:40

Matrix: Water

Date Received: 03/14/13 08:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			101673	03/14/13 12:17	NER	TAL HOU
Total/NA	Analysis	6010B		1	101814	03/15/13 18:43	TWR	TAL HOU
Dissolved	Prep	3010A			101673	03/14/13 12:17	NER	TAL HOU
Dissolved	Analysis	6010B		1	101814	03/15/13 19:29	TWR	TAL HOU
Dissolved	Analysis	6010B		1	101898	03/18/13 13:54	DCL	TAL HOU

Client Sample ID: LMW-22

Lab Sample ID: 600-70014-4

Date Collected: 03/13/13 10:10

Matrix: Water

Date Received: 03/14/13 08:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			101673	03/14/13 12:17	NER	TAL HOU
Total/NA	Analysis	6010B		1	101814	03/15/13 18:47	TWR	TAL HOU
Dissolved	Prep	3010A			101673	03/14/13 12:17	NER	TAL HOU
Dissolved	Analysis	6010B		1	101814	03/15/13 19:33	TWR	TAL HOU

Lab Chronicle

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-70014-1

Client Sample ID: LMW-5
Date Collected: 03/13/13 10:50
Date Received: 03/14/13 08:39

Lab Sample ID: 600-70014-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			101673	03/14/13 12:17	NER	TAL HOU
Total/NA	Analysis	6010B		1	101814	03/15/13 18:50	TWR	TAL HOU
Dissolved	Prep	3010A			101673	03/14/13 12:17	NER	TAL HOU
Dissolved	Analysis	6010B		1	101814	03/15/13 19:37	TWR	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Certification Summary

Client: Pastor, Behling & Wheeler LLC
TestAmerica Job ID: 600-70014-1
Project/Site: Exide Recycling Center, Frisco TX Projec

Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-12
Louisiana	NELAP	6	01967	06-30-13
Oklahoma	State Program	6	9503	08-31-13
Texas	NELAP	6	T104704223-10-6-TX	10-31-13
USDA	Federal		P330-08-00217	04-01-14
Utah	NELAP	8	GULF	10-31-13

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☐

Test America THE LEADE

600-70014 Chain of Custody

TAL-4124 (1007)

Client: PBW	Project Manager: Will Vreve	3/13/13	Chain of Custody Number: 225378
Address: 2201 Double Creek Dr, Ste 4004	Telephone Number (Area Code)/Fax Number: (512) 671-3439		Lab Number
City: Round Rock / State: TX / Zip Code: 78664	Site Contact: John Brayton	Lab Contact	Page 1 of 1
Project Name and Location (State): Exide LF Monitoring / Texas	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.: TO 1824 1856			

Analysis (Attach list if more space is needed)

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Total Metals	Dissolved Metals	Sn (Paste)	Special Instructions/ Conditions of Receipt
PMW-20R	3/12/13	1550		X					2				X	X	X	Metals for each sample include Sb, Cd, Arsenic, Se
PMW-20R MS	3/12/13	1550		X					2				X	X	X	
PMW-20R MSD	3/12/13	1550		X					2				X	X	X	
LMW-9	3/13/13	0910		X					2				X	X	X	
LMW-8	3/13/13	0940		X					2				X	X	X	
LMW-22	3/13/13	1010		X					2				X	X	X	
LMW-5	3/13/13	1050		X					2				X	X	X	
~~DUP-01~~	~~3/13/13~~															

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	3/13/13	1450	1. Received By	3/13/13	1450
2. Relinquished By	3/13/13	1730	2. Received By	3-14-13	8:45
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Login Sample Receipt Checklist

Client: Pastor, Behling & Wheeler LLC

Job Number: 600-70014-1

Login Number: 70014

List Source: TestAmerica Houston

List Number: 1

Creator: Pulumbarit, Josh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

SITE:	Exide Class II Landfill Frisco, Texas	
CLIENT:	Pastor, Behling & Wheeler, LLC (PBW) Round Rock, Texas	
EVENT:	Groundwater Sampling – March 2013	
INTENDED USE:	Groundwater Monitoring	
LABORATORY:	TestAmerica – Houston, TX TLAP Certification T104704223 Work Orders: 600-69922-1, 600-70014-1	
TESTS/ METHODS:	Total Metals (As, Cd, Pb, Se)	SW846 3010A/6010B
	Dissolved Metals (As, Cd, Pb, Se)	SW846 3010A/6010B
SAMPLES:	7 groundwater samples, 1 field duplicate, 1 field MS/MSD pair (see Table 1 for a complete listing)	

QAA completed a third-party review of the above chemical analysis data for conformance with the requirements of the Texas Risk Reduction Program (TRRP) guidance document, *Review and Reporting of COC Concentration Data* (RGG-366/TRRP-13 Revised May 2010) and for adherence to project objectives. The results of the review are discussed in this data usability summary (DUS).

All samples collected during the event were reviewed. QAA completed the review using the following laboratory and project submittals:

- Laboratory reportable data as defined in TRRP-13;
- Laboratory review checklists (LRCs) with the associated exception reports;
- Laboratory Electronic Data Deliverable (EDD); and
- Project field notes from the sampling event.

The review of the reportable data included the quality control (QC) parameters listed below, as required per TRRP-13, using the applicable analytical method and project requirements:

- Data Completeness
- Chain-of-Custody Procedures
- Sample Condition - Holding Time, Preservation, and Containers
- Field Procedures
- Results Reporting Procedures
- Laboratory and Field QC Blanks
- Laboratory Control Spike and Matrix Spike Recoveries
- Surrogate Recoveries
- Laboratory and Field Duplicate Precision

Additionally, QAA used the LRCs to evaluate the following QC parameters:

- Method Quantitation Limits (MQLs)
- Method Detection Limits (MDLs)
- Instrument Tuning, Calibration, and Performance
- Internal Standards

No project specific criteria have been specified for this site and thus the reviewer selected appropriate criteria as follows:

- Inorganics: 70-130% spike recovery (and not less than 30% or data is rejected) and ±MQL difference or 30% RPD (for laboratory duplicates) as recommended in TRRP-13
- Groundwater Samples: ± 2x MQL difference (if either result is less than 5x MQL) or 30% RPD (for field duplicates)

The results of the review are summarized in Table 2, which lists all of the sample results that were qualified by the reviewer.

GLOSSARY OF TERMS

The following definitions apply for terms related to analyte reporting limits:

MDL (Method Detection Limit) – the minimum concentration of an analyte that the laboratory can measure and report with 99% confidence that the analyte concentration is greater than zero. The MDL is determined by the laboratory for each analyte in a given reagent matrix (water or soil) generally using the procedures specified in 40 CFR Part 136, Appendix B. It is a measure of the concentration an instrument can detect or 'see' in a given reagent matrix. TRRP-13 requires that the laboratory routinely check the MDL for reasonableness.

SDL (Sample Detection Limit) – the MDL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method, and taking into account sample characteristics, sample preparation, and analytical adjustments including dry-weight adjustments. It is a measure of the concentration an instrument can detect or 'see' in a given sample. For TRRP, non-detects are reported using the SDL. This term was originally called the SQL (Sample Quantitation Limit) before the TRRP rule revisions effective March 19, 2007.

Unadjusted MQL (Method Quantitation Limit) – the lowest non-zero concentration standard in the laboratory's initial calibration curve calculated using the normal aliquot sizes and final volumes prescribed in the analytical method. The unadjusted MQL is reported by the laboratory for each analyte in a given matrix (water or soil). It is a measure of the concentration an instrument can accurately measure in a typical sample. Per TRRP, the Unadjusted MQLs should be below the Levels of Required Performance (LORPs) for purposes of assessment as well as demonstration of conformance with critical PCLs.

MQL – the unadjusted MQL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method, and takes into account sample characteristics, sample preparation, and analytical adjustments including dry-weight adjustments. It is a measure of the concentration an instrument can accurately measure in a given sample. Analytes with concentrations above the SDL but below the MQL, though present in the sample, may not be accurately measured and are thus flagged as estimated (J).

LABORATORY CERTIFICATION

At the time the laboratory data were generated for this project, the laboratory was NELAC accredited under the Texas Laboratory Accreditation Program (TLAP) for the matrices, methods and parameters of analysis requested on the chain-of-custody form. A copy of the laboratory's National Environmental Laboratory Accreditation Program (NELAP) certificate applicable to the period during which the laboratory generated the data in this report is included in Attachment 1 to this DUS.

USABILITY SUMMARY

1. Usability of Unqualified Non-Detects – Non-detects are reported at the sample detection limit (SDL) as required per TRRP. Additionally, according to the LRCs, an MDL study was performed for each analyte and the MDLs were checked for reasonableness. The levels of required performance (LORPs) have been established by PBW as the protective concentration levels (PCLs) for residential use and a Class 3 groundwater classification. As needed per TRRP, the Unadjusted MQL stated

by the laboratory is at or below the LORP for each target analyte, and thus the analytical methods are appropriate and the results can be used to demonstrate conformance with critical PCLs.

2. Usability of Qualified Data – There are no major QC deficiencies, and thus all data is usable as qualified for the intended use. As shown in Table 2, the reviewer qualified some non-detects as estimated with an unknown bias (UJ). These results can be used for determining the absence of the analyte; however, the concentration reported as the SDL is estimated. Additionally, results with a laboratory J-flag (i.e., between the SDL and MQL) should be considered estimates. The actual value for these results is not expected to exceed the sample MQL.

QAA Reviewer:	Taryn G. Scholz	3/28/13
	(Name)	(Date)

QC PARAMETER	QC OUTCOME
Data Completeness	The laboratory data packages contain all necessary data (i.e., the laboratory reportable data per TRRP-13). No package revisions were required. The EDD required revision to add an identification to distinguish total metals results from dissolved metals results.
Chain-of-Custody	Proper sample custody procedures were used, which confirms that the integrity of the samples was maintained. Additionally, the information on the custody record is complete and agrees with that in the field notes and laboratory report and all tests results are reported as requested on the custody record, except as follows: • For both work orders (600-69922-1 and 600-70014-1), Sulfate is requested on the custody record for every sample but the analyses were not performed because no container (unpreserved) was received for this test.
Sample Condition	Samples were collected in appropriate containers, properly preserved in the field, and prepared and analyzed within the holding times as required in the analytical methods, which ensures that the samples were not affected by analyte degradation.
Field Procedures	Readings for temperature, pH, specific conductivity, and turbidity were recorded in the field notes. Each well was either purged until the well conditions stabilized and sampled immediately or purged until dry and sampled the next day after recovery (for LMW-5, LMW-8, LMW-9, and LMW-22). Samples were collected in containers provided by the laboratory, placed on ice, and delivered to the laboratory by overnight courier. All dissolved sample aliquots were field-filtered using a 0.45-micron filter. Aliquots for total metals were filtered using a 10-micron filter for wells with a turbidity greater than 10-NTU (for LMW-5, LMW-8, and LMW-22). Only dedicated or disposable equipment was used. One field duplicate and one field MS/MSD pair was collected with the seven investigative samples.
Results Reporting Procedures	The hardcopy analytical results include a Result, MQL (adjusted), and SDL. Additionally, the EDD includes the MDL. Results are reported in mg/L. Non-detects are reported using the SDL as specified per TRRP and detects between the SDL and MQL are reported with a laboratory J-flag. The concentration reported for detects between the SDL and MQL is below the calibration range and thus is considered estimated. None of the samples required dilution.
MQLs	The LORPs for the samples have been defined by PBW as the Tier 1 PCLs for residential use and a Class 3 groundwater classification (i.e., $^{GW}GW_{Class}$ 3 in TCEQ Table 3 dated June 29, 2012). The Unadjusted MQLs are at or below the LORPs for all target analytes.
MDLs	According to the LRCs, an MDL study was performed for each target analyte, and the MDLs were checked for reasonableness and either adjusted or supported by the analysis of detectability check standards (DCSs) as required per TRRP-13. Results for the DCS are included in the laboratory data packages.
Laboratory Blanks	No analytes are reported above the detection limit in the laboratory blanks, which confirms that no contamination was introduced in the laboratory.
Field QC Blanks	No field QC blanks were collected with the samples.

QC PARAMETER	QC OUTCOME
Laboratory Control Spike Recovery	The laboratory prepared one laboratory control spike (LCS) for each analytical batch and the spike solution contained all of the target analytes. The LCS recoveries are within the TRRP recommended limits, which indicates good accuracy for the preparation and analysis technique on a sample free of matrix effects.
Matrix Spike Recovery	The laboratory prepared one Matrix Spike (MS) and Matrix Spike Duplicate (MSD) for each analytical batch and the spike solution contained all of the target analytes. Recoveries are reported for MS/MSD prepared using a sample from the site. One MS/MSD pair was prepared using sample PMW-20R for both total and dissolved metals and the recoveries are within the TRRP recommended criteria, which indicates good accuracy for the preparation and analysis technique on the given sample matrix.
Surrogate Recovery	Surrogates are not used for 6010B metals analysis.
Laboratory Duplicate Precision	The MS/MSD RPDs for all analytes are within the TRRP recommended limits, which indicates good precision for the preparation and analysis technique on the given sample matrix.
Field Duplicate Precision	One field duplicate was collected with the seven groundwater samples. Results are summarized in Table 3. RPDs (or the absolute difference between results for concentrations <5xMQL and for non-detects) are within the TRRP criteria for all target analytes.
Instrument Tuning	Instrument tuning is not required for 6010B metals analysis.
Instrument Calibration	According to the LRCs, initial and continuing calibration data met method requirements for all reported results, which indicates the instruments were properly calibrated to measure target analyte concentrations, except as follows: • The continuing calibration verification (CCV) for Cadmium and Selenium associated with batch 101814 recovered above the upper control limit. Per TRRP-13, the reviewer qualified the results, which are all non-detects, for the affected samples (i.e., those analyzed before or after the deficient CCV) as estimated (UJ).
Instrument Performance	According to the LRCs, the serial dilution and ICP interference check samples met method requirements, which indicates that no significant matrix interference exists.
Internal Standards	Internal standards are not used for 6010B metals analysis.
Total to Partial Balance	For each target metal in every sample, the dissolved metal concentration is at or below the total metal concentration or the difference does not exceed the inherent analytical method error (i.e., $\pm$ 2x MQL difference (if either result is less than 5x MQL) or 30% RPD).

TABLE 1
EXIDE CLASS II LANDFILL
GROUNDWATER SAMPLING – MARCH 2013

SAMPLES COLLECTED

Lab ID	Field ID	Sample Type	Sample Matrix	Sample Date	QC Prep Batch	
					Total Metals (As, Cd, Pb, Se) 3010A/6010B	Dissolved Metals (As, Cd, Pb, Se) 3010A/6010B
600-69922-001	LMW-17	INV	Water	3/12/13	101618	101618
600-69922-002	LMW-21	INV	Water	3/12/13	101618	101618
600-69922-003	Dup-1	FD of PMW-20R	Water	3/12/13	101618	101618
600-70014-001	PMW-20R	INV	Water	3/12/13	101673	101618
600-70014-001	PMW-20R	MS	Water	3/12/13	101673	101618
600-70014-001	PMW-20R	MSD	Water	3/12/13	101673	101618
600-70014-002	LMW-9	INV	Water	3/13/13	101673	101618
600-70014-003	LMW-8	INV	Water	3/13/13	101673	101618
600-70014-004	LMW-22	INV	Water	3/13/13	101673	101618
600-70014-005	LMW-5	INV	Water	3/13/13	101673	101618

FD – Field Duplicate
INV – Investigative
MS – Matrix Spike
MSD – Matrix Spike Duplicate

TABLE 2
EXIDE CLASS II LANDFILL
GROUNDWATER SAMPLING – MARCH 2013

QUALIFIED SAMPLE RESULTS

Note: In addition to the results listed below, all detects between the SDL and MQL (i.e., results with a laboratory J-flag) should be considered estimated since the reported concentration is below the calibration range. This qualification is included in the EDD.

Lab ID	Field ID	Sample Date	Analyte	Lab Result			DVQ	QC_Comment
600-70014-001	PMW-20R	3/12/13	Cadmium, Dissolved	0.00035	U ^	mg/L	UJ	CCV recovery above the upper control limit
600-70014-002	LMW-9	3/13/13	Cadmium, Dissolved	0.00035	U ^	mg/L	UJ	CCV recovery above the upper control limit
600-70014-003	LMW-8	3/13/13	Cadmium, Dissolved	0.00035	U ^	mg/L	UJ	CCV recovery above the upper control limit
600-70014-004	LMW-22	3/13/13	Cadmium, Dissolved	0.00035	U ^	mg/L	UJ	CCV recovery above the upper control limit
600-70014-004	LMW-22	3/13/13	Selenium, Dissolved	0.00417	U ^	mg/L	UJ	CCV recovery above the upper control limit
600-70014-005	LMW-5	3/13/13	Cadmium, Dissolved	0.00035	U ^	mg/L	UJ	CCV recovery above the upper control limit
600-70014-005	LMW-5	3/13/13	Selenium, Dissolved	0.00417	U ^	mg/L	UJ	CCV recovery above the upper control limit

U – Blank affected; The analyte was not detected >5x (10x for common contaminants) the level in an associated blank.

UJ – Estimated data; The analyte was not detected above the reported Sample Detection Limit (SDL) however the SDL is approximate due to exceedance of one or more QC requirements.

J – Estimated data; The reported sample concentration is approximate due to exceedance of one or more QC requirements.

NJ – Tentatively identified, estimated data; The analysis indicates the presence of the analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration.
R – Rejected data; Serious QC deficiencies make it impossible to verify the absence or presence of this analyte.

H – Bias in sample result is likely to be high

L – Bias in sample result is likely to be low

NOTE: For multiple deficiencies the reviewer applied the most severe flag. (R>U>J>JL/JH and R>UJ>UJL)

TABLE 3
EXIDE CLASS II LANDFILL
GROUNDWATER SAMPLING – MARCH 2013

FIELD DUPLICATE RESULTS

Field Duplicate	Original Sample	Sample Date	Method	Analyte	Field Duplicate Result			Original Sample Result			RPD	Absolute Difference	2x MQL	Pass
Dup-1	LMW-21	3/12/13	6010B	Arsenic	0.00328	U	mg/L	0.00328	U	mg/L	NA	0	0.03	y
Dup-1	LMW-21	3/12/13	6010B	Cadmium	0.00035	U	mg/L	0.00035	U	mg/L	NA	0	0.015	y
Dup-1	LMW-21	3/12/13	6010B	Lead	0.0029	U	mg/L	0.0029	U	mg/L	NA	0	0.03	y
Dup-1	LMW-21	3/12/13	6010B	Selenium	0.00417	U	mg/L	0.00417	U	mg/L	NA	0	0.12	y
Dup-1	LMW-21	3/12/13	6010B	Arsenic, Dissolved	0.00328	U	mg/L	0.00328	U	mg/L	NA	0	0.03	y
Dup-1	LMW-21	3/12/13	6010B	Cadmium, Dissolved	0.00035	U	mg/L	0.00035	U	mg/L	NA	0	0.015	y
Dup-1	LMW-21	3/12/13	6010B	Lead, Dissolved	0.0029	U	mg/L	0.0029	U	mg/L	NA	0	0.03	y
Dup-1	LMW-21	3/12/13	6010B	Selenium, Dissolved	0.00417	U	mg/L	0.00417	U	mg/L	NA	0	0.12	y

Note: The Relative Percent Difference (RPD) is not applicable (NA) if either result is less than 5x MQL, in which case the absolute difference is shown and should meet the criteria (within $\pm$ 2x MQL difference). Otherwise, the RPD should meet the criteria (less than or equal to 30%).

ATTACHMENT 1
LABORATORY ACCREDITATION CERTIFICATE

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704223-12-9

TestAmerica Laboratories, Inc. - Houston
Expiration Date: 10/31/2013

6310 Rothway Drive
Houston, TX 77040-5056
Issue Date: 11/1/2012

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non-Potable Water***

Method EPA 415.1

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10078407

Method EPA 420.2

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10079808

Method EPA 420.4

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10080203

Method EPA 425.1

Analyte	AB	Analyte ID	Method ID
Surfactants - MBAS	TX	2025	10080601

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10155609
Antimony	TX	1005	10155609
Arsenic	TX	1010	10155609
Barium	TX	1015	10155609
Beryllium	TX	1020	10155609
Boron	TX	1025	10155609
Cadmium	TX	1030	10155609
Calcium	TX	1035	10155609
Chromium	TX	1040	10155609
Cobalt	TX	1050	10155609
Copper	TX	1055	10155609
Iron	TX	1070	10155609
Lead	TX	1075	10155609
Magnesium	TX	1085	10155609
Manganese	TX	1090	10155609
Molybdenum	TX	1100	10155609
Nickel	TX	1105	10155609

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Matrix: ***Non-Potable Water***

Potassium	TX	1125	10155609
Selenium	TX	1140	10155609
Silica as SiO2	TX	1990	10155609
Silver	TX	1150	10155609
Sodium	TX	1155	10155609
Strontium	TX	1160	10155609
Thallium	TX	1165	10155609
Tin	TX	1175	10155609
Titanium	TX	1180	10155609
Vanadium	TX	1185	10155609
Zinc	TX	1190	10155609

Method EPA 602

Analyte	**AB**	**Analyte ID**	**Method ID**
Benzene	TX	4375	10102202
Ethylbenzene	TX	4765	10102202
m+p-xylene	TX	5240	10102202
o-Xylene	TX	5250	10102202
Toluene	TX	5140	10102202
Xylene (total)	TX	5260	10102202

Method EPA 608

Analyte	**AB**	**Analyte ID**	**Method ID**
4,4'-DDD	TX	7355	10103603
4,4'-DDE	TX	7360	10103603
4,4'-DDT	TX	7365	10103603
Aldrin	TX	7025	10103603
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10103603
alpha-Chlordane	TX	7240	10103603
Aroclor-1016 (PCB-1016)	TX	8880	10103603
Aroclor-1221 (PCB-1221)	TX	8885	10103603
Aroclor-1232 (PCB-1232)	TX	8890	10103603
Aroclor-1242 (PCB-1242)	TX	8895	10103603

EXPLANATION

- Approx. Landfill Area
- Monitoring Well Location
- (660.82) Water-Level Elevation Measured 1/31/13 (Ft MSL)
- 645 Potentiometric Contour (Ft MSL) C.I.= 5 Ft

STATE OF TEXAS
WILLIAM F. VIENNE
GEOLOGY
No. 10492
LICENSED PROFESSIONAL GEOSCIENTIST
4-3-13

Notes:
1. PMW-19 and PMW-20 were plugged and replaced by PMW-19R and PMW-20R, respectively, in the absence of well construction information.
2. PMW-19R, PMW-20R, LMW-21 and LMW-22 were installed in February 2013 (water-level elevation data not available).

N

Scale in Feet
0 60 120

Source of photo:
Imagery from NCTCOG, 2009 photography.

EXIDE RECYCLING CENTER
FRISCO, TEXAS

POTENTIOMETRIC SURFACE MAP JANUARY 31, 2013

PROJECT: 1856	BY: AJD	REVISIONS
DATE: APRIL, 2013	CHECKED: WFV	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

EXPLANATION

- Approx. Landfill Area
- Monitoring Well Location
- Well Plugged and Abandoned
- (620.60) Water-Level Elevation Measured 3/11/13 (Ft MSL)
- 635 Potentiometric Contour (Ft MSL) C.I.= 5 Ft

STATE OF TEXAS
WILLIAM F. VIENNE
GEOLOGY
No. 10492
LICENSED PROFESSIONAL GEOSCIENTIST
4-3-13

Notes:
1. PMW-19 and PMW-20 were plugged and replaced by PMW-19R and PMW-20R, respectively, in the absence of well construction information.

N

Scale in Feet
0 75 150

Source of photo:
Imagery from NCTCOG, 2009 photography.

EXIDE RECYCLING CENTER
FRISCO, TEXAS

POTENTIOMETRIC SURFACE MAP MARCH 11, 2013

PROJECT: 1856	BY: AJD	REVISIONS
DATE: APRIL, 2013	CHECKED: WFV	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

Class 2 Landfill Soil Data Summary

Sample ID	Sample Date	Sample Depth (below ground surface)	Cadmium	Lead
		(feet)	(mg/kg)	(mg/kg)
Class 2 Landfill				
2013-PMW-20R (0-0.5)	02/26/13	0-0.5	0.362	149
2013-PMW-19R (0-0.5)	02/26/13	0-0.5	< 0.0302	20.4
2013-LMW-21 (0-0.5)	02/27/13	0-0.5	0.796	209
2013-LMW-22 (0-0.5)	02/27/13	0-0.5	1.32	282
Residential Assessment Level[1]			52	500

Notes:

1. Residential Assessment Levels (RALs) are based on the minimum of the TRRP Tier 1 residential $^{Tot}Soil_{Comb}$ and Tier 2 $^{GW}Soil_{Class3}$ PCLs for a 30-acre source area.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Tel: (713)690-4444

TestAmerica Job ID: 600-69246-1
Client Project/Site: Exide Recycling Center, Frisco TX Projec

For:
Pastor, Behling & Wheeler LLC
2201 Double Creek Dr
Suite 4004
Round Rock, Texas 78664

Attn: Eric Pastor

Authorized for release by:
3/11/2013 4:44:07 PM
Cathy Upton
Data Delivery Analyst
cathy.upton@testamericainc.com

Designee for

Sachin Kudchadkar
Project Manager II
sachin.kudchadkar@testamericainc.com

Table of Contents

TestAmerica Houston
TRRP Data Package Cover Page

Job Number: 600-69246-1

Project Name/Number: Exide Recycling Center, Frisco TX Projec

This Data Package consists of:

This signature page, the laboratory review checklist, and the following Reportable Data:

- ☒ R1 Field Chain-of-Custody Form
- ☒ R2 Sample Identification Cross-reference;
- ☒ R3 Test Reports (Analytical Data Sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC Chapter 5
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- ☒ R4 Surrogate Recovery Data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- ☒ R5 Test Reports/Summary Forms for Blank Samples;
- ☒ R6 Test Reports/Summary Forms for Laboratory Control Samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - d) The laboratory's LCS QC limits
- ☒ R7 Test Reports for Matrix Spike/Matrix Spike Duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked sample,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- ☒ R8 Laboratory analytical duplicates (if applicable) recovery and precision, including:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- ☒ R9 List of method quantitation limit (MQL) and detectability check sample results for each analyte for each method and matrix;
- ☒ R10 Other problems or anomalies

The exception report for each "No" or "Not Reviewed (NR)" item in the Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under Texas laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm, to the best of my knowledge, that all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Cathy Upton		03/11/2013
Name (printed)	Signature	Date
Data Delivery Analyst		
Official Title (printed)		

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: TestAmerica-Houston	LRC Date: 03/06/13
Project Name: Exide Recycling Center, Frisco TX	Laboratory Job Number: 600-69246
Reviewer Name: TWR	Prep Batch Number(s): 600-100613- ICP

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soil/solid samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: TestAmerica-Houston	LRC Date: 03/06/13
Project Name: Exide Recycling Center, Frisco TX	Laboratory Job Number: 600-69246
Reviewer Name: TWR	Prep Batch Number(s): 600-100613- ICP

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?			X		
		Were percent RSDs or correlation coefficient criteria met?			X		
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?			X		
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	**Raw data (NELAC section 5.5.10)**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?			X		
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?	X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: TestAmerica-Houston	LRC Date: 03/06/13
Project Name: Exide Recycling Center, Frisco TX	Laboratory Job Number: 600-69246
Reviewer Name: TWR	Prep Batch Number(s): 600-100613- ICP

ER #[1]	DESCRIPTION

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

Detection Check Standard

Matrix:	Soil
Method:	6010B
Preparation:	3050
Date Analyzed:	11/29/2012
Date Prepared:	11/28/2012
Instrument:	Thermo 6500
TALS Batches:	94304,94171(prep)
Prep/Reagent Factor =	50
Units:	mg/kg

Analyte	MDL	DCS Spike	Measured Result	MQL
Aluminum	0.299654	0.5	0.44	25
Antimony	0.231553	0.45	0.475	2.5
Arsenic	0.217923	0.5	0.58	1
Barium	0.011322	0.03	0.03	1
Beryllium	0.014513	0.02	0.02	0.25
Boron	0.385535	0.6	0.885	20
Cadmium	0.025642	0.05	0.055	0.25
Calcium	0.86399	1.5	2.205	100
Chromium	0.050606	0.1	0.11	0.5
Cobalt	0.067622	0.1	0.1	0.5
Copper	0.173703	0.5	0.385	0.5
Iron	2.534007	4	4.285	20
Lead	0.104832	0.2	0.23	0.5
Selenium	0.258884	0.5	0.56	2
Manganese	0.038111	0.05	0.045	1.5
Molybdenum	0.136448	0.35	0.38	0.5
Nickel	0.116599	0.15	0.14	1
Silver	0.118848	0.2	0.21	0.5
Sodium	0.885548	2.4	3.225	100
Strontium	0.00252	0.005	0.985	0.25
Thallium	0.276988	0.7	0.71	1.5
Tin	0.08729	0.15	0.16	1
Titanium	0.014529	0.03	0.02	0.5
Vanadium	0.079068	0.15	0.17	0.5
Zinc	0.108432	0.2	0.315	1.5

Job ID: 600-69246-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative
600-69246-1

Comments
No additional comments.

Receipt
The samples were received on 2/28/2013 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.7º C.

Metals
Method(s) 6010B: The following sample(s) required filtration to reduce matrix interferences: (600-69246-9 DU), LMW-21 (0-0.5) (600-69246-9), LMW-21 (0-0.5) (600-69246-9 MS), LMW-21 (0-0.5) (600-69246-9 MSD), LMW-22 (0-0.5) (600-69246-13), PMW-19R (0-0.5) (600-69246-5), PMW-20R (0-0.5) (600-69246-1).

Method Summary

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-69246-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL HOU
Moisture	Percent Moisture	EPA	TAL HOU

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-69246-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-69246-1	PMW-20R (0-0.5)	Solid	02/26/13 12:45	02/28/13 09:15
600-69246-5	PMW-19R (0-0.5)	Solid	02/26/13 15:15	02/28/13 09:15
600-69246-9	LMW-21 (0-0.5)	Solid	02/27/13 08:05	02/28/13 09:15
600-69246-13	LMW-22 (0-0.5)	Solid	02/27/13 08:00	02/28/13 09:15

Client Sample ID: PMW-20R (0-0.5)

Lab Sample ID: 600-69246-1

Date Collected: 02/26/13 12:45
Matrix: Solid
Date Received: 02/28/13 09:15
Percent Solids: 76.9

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.362		0.301	0.0309	mg/Kg	☼	02/28/13 10:48	03/01/13 09:56	1
Lead	149		0.602	0.126	mg/Kg	☼	02/28/13 10:48	03/01/13 09:56	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	23		1.0	1.0	%			02/28/13 15:48	1
Percent Solids	77		1.0	1.0	%			02/28/13 15:48	1

Client Sample ID: PMW-19R (0-0.5)

Lab Sample ID: 600-69246-5

Date Collected: 02/26/13 15:15
Matrix: Solid
Date Received: 02/28/13 09:15
Percent Solids: 82.5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0302	U	0.294	0.0302	mg/Kg	☼	02/28/13 10:48	03/01/13 10:00	1
Lead	20.4		0.588	0.123	mg/Kg	☼	02/28/13 10:48	03/01/13 10:00	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17		1.0	1.0	%			02/28/13 15:48	1
Percent Solids	83		1.0	1.0	%			02/28/13 15:48	1

Client Sample ID: LMW-21 (0-0.5)

Lab Sample ID: 600-69246-9

Date Collected: 02/27/13 08:05
Matrix: Solid
Date Received: 02/28/13 09:15
Percent Solids: 76.1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.796		0.325	0.0333	mg/Kg	☼	02/28/13 10:48	03/01/13 10:04	1
Lead	209		0.650	0.136	mg/Kg	☼	02/28/13 10:48	03/01/13 10:04	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24		1.0	1.0	%			02/28/13 15:48	1
Percent Solids	76		1.0	1.0	%			02/28/13 15:48	1

Client Sample ID: LMW-22 (0-0.5)

Lab Sample ID: 600-69246-13

Date Collected: 02/27/13 08:00
Matrix: Solid
Date Received: 02/28/13 09:15
Percent Solids: 75.9

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	1.32		0.308	0.0316	mg/Kg	☼	02/28/13 10:48	03/01/13 10:19	1
Lead	282		0.615	0.129	mg/Kg	☼	02/28/13 10:48	03/01/13 10:19	1

General Chemistry

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24		1.0	1.0	%			02/28/13 15:48	1
Percent Solids	76		1.0	1.0	%			02/28/13 15:48	1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 600-100613/1-A
Matrix: Solid
Analysis Batch: 100688

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 100613

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.0256	U	0.250	0.0256	mg/Kg		02/28/13 10:48	03/01/13 09:49	1
Lead	0.105	U	0.500	0.105	mg/Kg		02/28/13 10:48	03/01/13 09:49	1

Lab Sample ID: LCSSRM 600-100613/2-A
Matrix: Solid
Analysis Batch: 100688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 100613

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	103	99.61		mg/Kg		96.7	83.6 - 115.5
Lead	76.9	72.01		mg/Kg		93.6	81.3 - 118.7

Lab Sample ID: 600-69246-9 MS
Matrix: Solid
Analysis Batch: 100688

Client Sample ID: LMW-21 (0-0.5)
Prep Type: Total/NA
Prep Batch: 100613

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.796		30.2	27.03		mg/Kg	☼	87	75 - 125
Lead	209		60.4	262.5		mg/Kg	☼	88	75 - 125

Lab Sample ID: 600-69246-9 MSD
Matrix: Solid
Analysis Batch: 100688

Client Sample ID: LMW-21 (0-0.5)
Prep Type: Total/NA
Prep Batch: 100613

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	0.796		32.5	28.82		mg/Kg	☼	86	75 - 125	6	20
Lead	209		64.9	265.2		mg/Kg	☼	86	75 - 125	1	20

Lab Sample ID: 600-69246-9 DU
Matrix: Solid
Analysis Batch: 100688

Client Sample ID: LMW-21 (0-0.5)
Prep Type: Total/NA
Prep Batch: 100613

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cadmium	0.796		0.7564		mg/Kg	☼	5	20
Lead	209		182.1		mg/Kg	☼	14	20

Unadjusted Detection Limits

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-69246-1

Method: 6010B - Metals (ICP)

Analyte	MQL	MDL	Units	Method
Cadmium	0.250	0.0256	mg/Kg	6010B
Lead	0.500	0.105	mg/Kg	6010B

General Chemistry

Analyte	MQL	MDL	Units	Method
Percent Moisture	1.0	1.0	%	Moisture
Percent Solids	1.0	1.0	%	Moisture

QC Association Summary

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-69246-1

Metals

Prep Batch: 100613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-69246-1	PMW-20R (0-0.5)	Total/NA	Solid	3050B	
600-69246-5	PMW-19R (0-0.5)	Total/NA	Solid	3050B	
600-69246-9	LMW-21 (0-0.5)	Total/NA	Solid	3050B	
600-69246-9 DU	LMW-21 (0-0.5)	Total/NA	Solid	3050B	
600-69246-9 MS	LMW-21 (0-0.5)	Total/NA	Solid	3050B	
600-69246-9 MSD	LMW-21 (0-0.5)	Total/NA	Solid	3050B	
600-69246-13	LMW-22 (0-0.5)	Total/NA	Solid	3050B	
LCSSRM 600-100613/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 600-100613/1-A	Method Blank	Total/NA	Solid	3050B	

Analysis Batch: 100688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-69246-1	PMW-20R (0-0.5)	Total/NA	Solid	6010B	100613
600-69246-5	PMW-19R (0-0.5)	Total/NA	Solid	6010B	100613
600-69246-9	LMW-21 (0-0.5)	Total/NA	Solid	6010B	100613
600-69246-9 DU	LMW-21 (0-0.5)	Total/NA	Solid	6010B	100613
600-69246-9 MS	LMW-21 (0-0.5)	Total/NA	Solid	6010B	100613
600-69246-9 MSD	LMW-21 (0-0.5)	Total/NA	Solid	6010B	100613
600-69246-13	LMW-22 (0-0.5)	Total/NA	Solid	6010B	100613
LCSSRM 600-100613/2-A	Lab Control Sample	Total/NA	Solid	6010B	100613
MB 600-100613/1-A	Method Blank	Total/NA	Solid	6010B	100613

General Chemistry

Analysis Batch: 100646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-69246-1	PMW-20R (0-0.5)	Total/NA	Solid	Moisture	
600-69246-5	PMW-19R (0-0.5)	Total/NA	Solid	Moisture	
600-69246-9	LMW-21 (0-0.5)	Total/NA	Solid	Moisture	
600-69246-9 MS	LMW-21 (0-0.5)	Total/NA	Solid	Moisture	
600-69246-9 MSD	LMW-21 (0-0.5)	Total/NA	Solid	Moisture	
600-69246-13	LMW-22 (0-0.5)	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-69246-1

Client Sample ID: PMW-20R (0-0.5)

Lab Sample ID: 600-69246-1

Date Collected: 02/26/13 12:45
Matrix: Solid
Date Received: 02/28/13 09:15
Percent Solids: 76.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			100613	02/28/13 10:48	NER	TAL HOU
Total/NA	Analysis	6010B		1	100688	03/01/13 09:56	DCL	TAL HOU
Total/NA	Analysis	Moisture		1	100646	02/28/13 15:48	AS	TAL HOU

Client Sample ID: PMW-19R (0-0.5)

Lab Sample ID: 600-69246-5

Date Collected: 02/26/13 15:15
Matrix: Solid
Date Received: 02/28/13 09:15
Percent Solids: 82.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			100613	02/28/13 10:48	NER	TAL HOU
Total/NA	Analysis	6010B		1	100688	03/01/13 10:00	DCL	TAL HOU
Total/NA	Analysis	Moisture		1	100646	02/28/13 15:48	AS	TAL HOU

Client Sample ID: LMW-21 (0-0.5)

Lab Sample ID: 600-69246-9

Date Collected: 02/27/13 08:05
Matrix: Solid
Date Received: 02/28/13 09:15
Percent Solids: 76.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			100613	02/28/13 10:48	NER	TAL HOU
Total/NA	Analysis	6010B		1	100688	03/01/13 10:04	DCL	TAL HOU
Total/NA	Analysis	Moisture		1	100646	02/28/13 15:48	AS	TAL HOU

Client Sample ID: LMW-22 (0-0.5)

Lab Sample ID: 600-69246-13

Date Collected: 02/27/13 08:00
Matrix: Solid
Date Received: 02/28/13 09:15
Percent Solids: 75.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			100613	02/28/13 10:48	NER	TAL HOU
Total/NA	Analysis	6010B		1	100688	03/01/13 10:19	DCL	TAL HOU
Total/NA	Analysis	Moisture		1	100646	02/28/13 15:48	AS	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Certification Summary

Client: Pastor, Behling & Wheeler LLC
Project/Site: Exide Recycling Center, Frisco TX Projec

TestAmerica Job ID: 600-69246-1

Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-12
Louisiana	NELAP	6	01967	06-30-13
Oklahoma	State Program	6	9503	08-31-13
Texas	NELAP	6	T104704223-10-6-TX	10-31-13
USDA	Federal		P330-08-00217	04-01-14
Utah	NELAP	8	GULF	10-31-13

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes☐ No☐

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client: Pastor, Behling & Wheeler	Project Manager: Eric Pastor	Date: 2/27/13	Chain of Custody Number: 224810
Address: 2201 Double Creek Dr. #4004	Telephone Number (Area Code)/Fax Number: (512) 671-3434	Lab Number	Page 1 of 2
City: Round Rock / State: TX / Zip Code: 78664	Site Contact	Lab Contact	
Project Name and Location (State): Exide, Frisco, TX	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.: ~~1755~~ 1856			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Ice	Analysis: C4S Pb	MS/MSD	Special Instructions/ Conditions of Receipt
PMW-20R(0-0.5)	2/26/13	1245				X							X	X	X	
PMW-20R(0.5-2)		1246														Hold
PMW-20R(2-4)		1247														Hold
PMW-20R(4-5)		1248														Hold
PMW-19R(0-0.5)		1515														
PMW-19R(0.5-2)		1516														Hold
PMW-19R(2-4)		1517														Hold
PMW-19R(4-5)		1518														Hold
LMW-21(0-0.5)	2/27/13	0805													X	
LMW-21(0.5-2)		0807														Hold
LMW-21(2-4)		0808														Hold
LMW-21(4-5)		0810														Hold

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Roberto Russell	2/27/13	1445	1. Received By: [signature]	2/27/13	1445
2. Relinquished By: [signature]	2/27/13	1730	2. Received By		
3. Relinquished By			3. Received By: [signature]	02/28/13	0915

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

3/11/2013

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes☐ No☐

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client: Pastor, Behling & Wheeler	Project Manager: Eric Pastor	Date: 2/27/13	Chain of Custody Number: 224811
Address: 2201 Double Creek Dr. #4004	Telephone Number (Area Code)/Fax Number: (512) 671-3434	Lab Number	Page 2 of 2
City: Round Rock / State: TX / Zip Code: 78664	Site Contact	Lab Contact	
Project Name and Location (State): Exide, Frisco, TX	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.: 1856			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	TFoe	Cd, Pb MS/MSD	Special Instructions/ Conditions of Receipt
LMW-22 (0-0.5)	2/27/13	0800				X							X	X	
LMW-22 (0.5-2)	↓	0801				↓							↓	↓	Hold
LMW-22 (2-4)		0805													Hold
LMW-22 (4-5)		0809													Hold

Analysis (Attach list if more space is needed)

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Robert Russell	2/27/13	1445	1. Received By: [signature]	2/27/13	1445
2. Relinquished By: [signature]	2/27/13	1720	2. Received By		
3. Relinquished By			3. Received By: [signature]	02/28/13	0915

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

3/11/2013

Login Sample Receipt Checklist

Client: Pastor, Behling & Wheeler LLC

Job Number: 600-69246-1

Login Number: 69246

List Source: TestAmerica Houston

List Number: 1

Creator: Pulumbarit, Josh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

SITE:	Exide Class II Landfill Frisco, Texas	
CLIENT:	Pastor, Behling & Wheeler, LLC (PBW) Round Rock, Texas	
EVENT:	Soil Sampling – February 2013	
INTENDED USE:	Affected Property Assessment	
LABORATORY:	TestAmerica – Houston, TX TLAP Certification T104704223 Work Order: 600-69246-1	
TESTS/ METHODS:	Total Metals (Cd, Pb)	SW846 3050B/6010B
SAMPLES:	4 soil samples, 1 field MS/MSD pair (see Table 1 for a complete listing)	

QAA completed a third-party review of the above chemical analysis data for conformance with the requirements of the Texas Risk Reduction Program (TRRP) guidance document, *Review and Reporting of COC Concentration Data* (RGG-366/TRRP-13 Revised May 2010) and for adherence to project objectives. The results of the review are discussed in this data usability summary (DUS).

QAA completed the review using the following laboratory and project submittals:

- Laboratory reportable data as defined in TRRP-13;
- Laboratory review checklists (LRCs) with the associated exception reports;
- Laboratory Electronic Data Deliverable (EDD); and
- Project field notes from the sampling event.

The review of the reportable data included the quality control (QC) parameters listed below, as required per TRRP-13, using the applicable analytical method and project requirements:

- Data Completeness
- Chain-of-Custody Procedures
- Sample Condition - Holding Time, Preservation, and Containers
- Field Procedures
- Results Reporting Procedures
- Laboratory and Field QC Blanks
- Laboratory Control Spike and Matrix Spike Recoveries
- Surrogate Recoveries
- Laboratory and Field Duplicate Precision

Additionally, QAA used the LRCs to evaluate the following QC parameters:

- Method Quantitation Limits (MQLs)
- Method Detection Limits (MDLs)
- Instrument Tuning, Calibration, and Performance
- Internal Standards

No project specific criteria have been specified for this site and thus the reviewer selected appropriate criteria as follows:

- Inorganics: 70-130% spike recovery (and not less than 30% or data is rejected) and ±MQL difference or 30% RPD (for laboratory duplicates) as recommended in TRRP-13

GLOSSARY OF TERMS

The following definitions apply for terms related to analyte reporting limits:

MDL (Method Detection Limit) – the minimum concentration of an analyte that the laboratory can measure and report with 99% confidence that the analyte concentration is greater than zero. The MDL is determined by the laboratory for each analyte in a given reagent matrix (water or soil) generally using the procedures specified in 40 CFR Part 136, Appendix B. It is a measure of the concentration an instrument can detect or 'see' in a given reagent matrix. TRRP-13 requires that the laboratory routinely check the MDL for reasonableness.

SDL (Sample Detection Limit) – the MDL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method, and taking into account sample characteristics, sample preparation, and analytical adjustments including dry-weight adjustments. It is a measure of the concentration an instrument can detect or 'see' in a given sample. For TRRP, non-detects are reported using the SDL. This term was originally called the SQL (Sample Quantitation Limit) before the TRRP rule revisions effective March 19, 2007.

Unadjusted MQL (Method Quantitation Limit) – the lowest non-zero concentration standard in the laboratory's initial calibration curve calculated using the normal aliquot sizes and final volumes prescribed in the analytical method. The unadjusted MQL is reported by the laboratory for each analyte in a given matrix (water or soil). It is a measure of the concentration an instrument can accurately measure in a typical sample. Per TRRP, the Unadjusted MQLs should be below the Levels of Required Performance (LORPs) for purposes of assessment as well as demonstration of conformance with critical PCLs.

MQL – the unadjusted MQL adjusted to reflect sample-specific actions, such as dilution or use of smaller aliquot sizes than prescribed in the analytical method, and takes into account sample characteristics, sample preparation, and analytical adjustments including dry-weight adjustments. It is a measure of the concentration an instrument can accurately measure in a given sample. Analytes with concentrations above the SDL but below the MQL, though present in the sample, may not be accurately measured and are thus flagged as estimated (J).

LABORATORY CERTIFICATION

At the time the laboratory data were generated for this project, the laboratory was NELAC accredited under the Texas Laboratory Accreditation Program (TLAP) for the matrices, methods and parameters of analysis requested on the chain-of-custody form. A copy of the laboratory's National Environmental Laboratory Accreditation Program (NELAP) certificate applicable to the period during which the laboratory generated the data in this report is included in Attachment 1 to this DUS.

USABILITY SUMMARY

1. Usability of Unqualified Non-Detects – Non-detects are reported at the sample detection limit (SDL) as required per TRRP. Additionally, according to the LRCs, an MDL study was performed for each analyte and the MDLs were checked for reasonableness. The levels of required performance (LORPs) have been established by PBW as 52-mg/kg for Cadmium and 500-mg/kg for Lead. As needed per TRRP, the Unadjusted MQL stated by the laboratory is at or below the LORP for each of these analytes, and thus the analytical methods are appropriate and the results can be used to demonstrate conformance with critical PCLs.
2. Usability of Qualified Data – No QC deficiencies were noted and the reviewer did not apply any data quality flags. Thus, all results are acceptable for the intended use.

QAA Reviewer: Taryn G. Scholz (Name) 4/2/13 (Date)

QC PARAMETER	QC OUTCOME
Data Completeness	The laboratory data package contains all necessary data (i.e., the laboratory reportable data per TRRP-13). No data package or EDD revisions were required.
Chain-of-Custody	Proper sample custody procedures were used, which confirms that the integrity of the samples was maintained. Additionally, the information on the custody record is complete and agrees with that in the field notes and laboratory report and the results for all tests are reported as requested on the custody record, except as follows: • The custody record shows two field MS/MSD were collected, one for PMW-20R (0-0.5) and one for LMW-21 (0-0.5)). No results are reported for the MS/MSD for PMW-20R (0-0.5) as it was cancelled based on the number of investigative samples that were held pending results of the first soil interval and never analyzed.
Sample Condition	Samples were collected in appropriate containers, properly preserved in the field, and prepared and analyzed within the holding times as required in the analytical methods, which ensures that the samples were not affected by analyte degradation.
Field Procedures	The soil borings were advanced using a hollow-stem auger. All samples were collected and placed immediately into sterilized jars provided by the laboratory and then into a cooler with ice. Four depth intervals were sampled at each of the four boring locations with all but the first interval marked hold pending analysis of the first interval. None of the held samples required analysis. Two field MS/MSD pairs were collected and one was analyzed with the four investigative samples.
Results Reporting Procedures	The hardcopy analytical results include a Result, MQL (adjusted), and SDL. The EDD includes the MDL, SDL (under the SQL column per previously used terminology) and the MQL, which is not adjusted for sample specific factors. Results are reported in mg/kg with dry-weight correction. Non-detects are reported using the SDL as specified per TRRP. There are no detects between the SDL and MQL. None of the samples required dilution.
MQLs	The LORPs for the samples have been defined by PBW as 52 mg/kg for Cadmium and 500 mg/kg for Lead. The Unadjusted MQLs are at or below the LORPs for these analytes.
MDLs	According to the LRCs, an MDL study was performed for each target analyte, and the MDLs were checked for reasonableness and either adjusted or supported by the analysis of detectability check standards (DCSs) as required per TRRP-13. Results for the DCS are included in the laboratory data packages.
Laboratory Blanks	No analytes are reported above the detection limit in the laboratory blanks, which confirms that no contamination was introduced in the laboratory.
Field QC Blanks	No field QC blanks were collected with the samples.
Laboratory Control Spike Recovery	The laboratory prepared one laboratory control spike (LCS) for each analytical batch and the spike solution contained all of the target analytes. The LCS recoveries are within the TRRP recommended limits, which indicates good accuracy for the preparation and analysis technique on a sample free of matrix effects.

Matrix Spike Recovery	The laboratory prepared one Matrix Spike (MS) and Matrix Spike Duplicate (MSD) for each analytical batch and the spike solution contained all of the target analytes. Recoveries are reported for MS/MSD prepared using a sample from the site. One MS/MSD pair was prepared using sample LMW-21 (0-05) and the recoveries are within the TRRP recommended criteria, which indicates good accuracy for the preparation and analysis technique on the given sample matrix.
Surrogate Recovery	Surrogates are not used for 6010B metals analysis.
Laboratory Duplicate Precision	The MS/MSD RPDs for all analytes are within the TRRP recommended limits, which indicates good precision for the preparation and analysis technique on the given sample matrix.
Field Duplicate Precision	No field duplicates were collected with the samples.
Instrument Tuning	Instrument tuning is not required for 6010B metals analysis.
Instrument Calibration	According to the LRCs, initial and continuing calibration data met method requirements for all reported results, which indicates the instruments were properly calibrated to measure target analyte concentrations.
Instrument Performance	According to the LRCs, the serial dilution and ICP interference check samples met method requirements, which indicates that no significant matrix interference exists.
Internal Standards	Internal standards are not used for 6010B metals analysis.

TABLE 1
EXIDE CLASS II LANDFILL
SOIL SAMPLING – FEBRUARY 2013

SAMPLES ANALYZED

Lab ID	Field ID	Sample Type	Sample Matrix	Sample Date	QC Batch (Cd, Pb)
600-69246-001	PMW-20R (0-0.5)	INV	Solid	2/26/2013	100613
600-69246-005	PMW-19R (0-0.5)	INV	Solid	2/26/2013	100613
600-69246-009	LMW-21 (0-0.5)	INV	Solid	2/27/2013	100613
600-69246-009	LMW-21 (0-0.5)	MS	Solid	2/27/2013	100613
600-69246-009	LMW-21 (0-0.5)	MSD	Solid	2/27/2013	100613
600-69246-013	LMW-22 (0-0.5)	INV	Solid	2/27/2013	100613

INV – Investigative
MS – Matrix Spike
MSD – Matrix Spike Duplicate

ATTACHMENT 1
LABORATORY ACCREDITATION CERTIFICATE

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704223-12-9

TestAmerica Laboratories, Inc. - Houston
Expiration Date: 10/31/2013

6310 Rothway Drive
Houston, TX 77040-5056
Issue Date: 11/1/2012

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Solid & Chemical Materials***

Orthophosphate as P	TX	1870	10070403
Phosphorus	TX	1910	10070403

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10155609
Antimony	TX	1005	10155609
Arsenic	TX	1010	10155609
Barium	TX	1015	10155609
Beryllium	TX	1020	10155609
Boron	TX	1025	10155609
Cadmium	TX	1030	10155609
Calcium	TX	1035	10155609
Chromium	TX	1040	10155609
Cobalt	TX	1050	10155609
Copper	TX	1055	10155609
Iron	TX	1070	10155609
Lead	TX	1075	10155609
Lithium	TX	1080	10155609
Magnesium	TX	1085	10155609
Manganese	TX	1090	10155609
Molybdenum	TX	1100	10155609
Nickel	TX	1105	10155609
Potassium	TX	1125	10155609
Selenium	TX	1140	10155609
Silica as SiO2	TX	1990	10155609
Silver	TX	1150	10155609
Sodium	TX	1155	10155609
Strontium	TX	1160	10155609
Thallium	TX	1165	10155609
Tin	TX	1175	10155609

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Matrix: ***Solid & Chemical Materials***

Titanium	TX	1180	10155609
Vanadium	TX	1185	10155609
Zinc	TX	1190	10155609

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10165807

Method EPA 7471

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10166208

Method EPA 8015

Analyte	**AB**	**Analyte ID**	**Method ID**
Allyl alcohol	TX	4350	10173601
Diesel range organics (DRO)	TX	9369	10173601
Ethanol	TX	4750	10173601
Ethylene glycol	TX	4785	10173601
Gasoline range organics (GRO)	TX	9408	10173601
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173601
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10173601
Methanol	TX	4930	10173601
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173601
n-Propanol (1-Propanol)	TX	5055	10173601

Method EPA 8021

Analyte	**AB**	**Analyte ID**	**Method ID**
Benzene	TX	4375	10174808
m+p-xylene	TX	5240	10174808
Methyl tert-butyl ether (MTBE)	TX	5000	10174808
o-Xylene	TX	5250	10174808
Toluene	TX	5140	10174808
Xylene (total)	TX	5260	10174808

Method EPA 8081

Analyte	**AB**	**Analyte ID**	**Method ID**